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EAST EUROPE REPORT ECONOMIC AND INDUSTRIAL AFFAIRS

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CONTENTS

BULGARIA	
Drought Effects Call for Better Selection of Wheat Varieties (Aleksandur Karaivanov; RABOTNICHESKO DELO, 17 Jun 83)	1
CZECHOSLOVAKIA	
Consumer, Production, Housing Cooperatives' Efforts Summarized (LIDOVA DEMOKRACIE, 4 May 83)	3
Enterprises Warned on Continued Inefficiency, Bad Quality Losses (Editorial; RUDE PRAVO, 12 May 83)	5
HUNGARY	
New Means Sought To Regulate Capital Flow (Jozsef Sari; GAZDASAG, No 1, 1983)	8
POLAND	
Current, Future Employment Situation Described (Various sources, various dates)	23
Employment in 1982 Employment Forecast for 1983 Changes in Employment Structure Changes in Management Personnel Job Vacancies, Unemployment Polish Workers Abroad	
Sejm Committee Debates on Economic Reform Summarized (Marek Misiak; ZYCIE GOSPODARCZE, 5 Jun 83)	36
Status of Workers Councils Considered by Sejm Commission (Irena Dryll; ZYCIE GOSPODARCZE, 22 May 83)	38

Special Currency Exchange Rate Tables Published	
(TRYBUNA LUDU, various dates)	42
Exchange Rate Table No 19	
Exchange Rate Table No 20	
Exchange Rate Table No 21	
Exchange Rate Table No 22	
Exchange Rate Table No 23	
Exchange Rate Table No 24	
Exchange Rate Table No 25	
Infighting Over Reform Illustrated in Forester's Polemic	
(Ryszard Konarski, Zielona Gora; LAS POLSKI, 1-30 Apr 83)	52
ROMANIA	
Plans for Intensive Use of Energy in Agriculture	
(Bujor Manescu, Victor Manole; ERA SOCIALISTA, 10 May 83)	57
Progress in Machine Building Important for Energy Program	
(Ion Crisan; ERA SOCIALISTA, 25 Apr 83)	64
Problems Involved in Switching to Coal-Based Energy Source	
(M. Suvelea; REVISTA ECONOMICA, 22 Apr 83)	72
, January 2001	

DROUGHT EFFECTS CALL FOR BETTER SELECTION OF WHEAT VARIETIES

Sofia RABOTNICHESKO DELO in Bulgarian 17 Jun 83 p 4

[Article by Senior Science Associate 1st Degree, Aleksandur Karaivanov, Director of the Dobrudzha Wheat and Sunflower Institute in General Toshevo: "Let Us Also Think About the Future Crop"]

[Text] Due to the early germination, the mild winter, the warm spring and the acute drought in a larger portion of the nation, the wheat is ripening unusually early, by around 10-15 days and in some places even 20 days. In certain regions, they have already begun harvesting. Undoubtedly the greatest and most important concern at present is to bring in the crop without losses. The necessary organization has been set up under the leadership of the okrug and obshtina party committees and the okrug agroindustrial unions for this purpose.

But along with this there are certain other questions which concern the agricultural leaders and specialists and they speak about these, they voice their opinion and make their proposals. What is the issue here and what is our view?

In many areas, the seed producing sections have suffered greatly from the drought and seed suitable for planting cannot be obtained from them. However, other, better developed plantings have been established and from these the necessary planting stock will be supplied.

In recent years, in line with the intensification of wheat production, the varietal structure has improved each year, with the growing participation of the intensive-type varieties, with more stable yields and better adaptability to the nation's conditions. Droughts, although not so strong, have occurred in previous years and in various developmental phases of the wheat. This has provided an opportunity to assess the drought resistance of the Bulgarian and foreign varieties which are found in production. This year, the evaluations have been confirmed more clearly and more emphatically.

At present, when we are harvesting the wheat, we must be clear about its varietal structure in the coming year in order to set aside the necessary seed. In alluding to individual instances and incomplete impressions, certain specialists and leaders are already making assessments and drawing up opinions on the complete abandoning of certain varieties or focusing only on certain ones and so forth. But we still do not have the final results which would best show the reaction of the varieties to this sharp drought. On the basis of many years of

observations and results and on the impressions acquired during these years from numerous experiments in the system of the State Varietal Testing Commission and from the production experiments in the APK, the collective of the Dobrudzha Wheat and Sunflower Institute in General Toshevo makes the following assessment of the varieties and the recommendation for the varietal structure in 1984.

The least drought resistant are the varieties Zlatna Dolina, Super Zlatna Dolina, Skitiya, Boranka, Vuchedolka and others and the later varieties such as Rekviem and Trayan.

As the best one can mention Trakiya, Sadovo-1, Koladi, Kiten, Kaliakra-2 and Katya.

The remaining varieties hold an intermediate position. Here it must be stressed that the differences between the groups are not very great.

Does this mean that in the following year we must fully abandon the varieties in the first group? Certainly not! General conclusions cannot be drawn from one year. Such severe droughts occur in our nation significantly more rarely. For this reason, as up to now, we must constantly improve the varietal structure with evermore intensive wheats, in supporting the varieties which in previous years have proven to be most suitable for the area, and give preference to the more drought-resistant ones if the region is drier or to more moisture-loving varieties in regions with more moisture according to the precipitation data for many years.

I would like to take up one other question. Out of necessity and some places out of enthusiasm, last autumn we returned to more replantings under wheat. What did the observations show? Where the techniques of monocropping for this crop were observed, where the measures were carried out at definite times and efficiently, the plantings are good. Conversely, where the stubble was not burned off, where only shallow discing of the fields was carried out, the plantings suffered very greatly both from characteristic diseases and from the drought. In other words, here the most categorical conclusion can be drawn: it is essential to strictly observe the techniques for the monocropping of wheat as approved by the Expert Council under the NAPS [National Agroindustrial union].

In this regard we must also pay attention to the following aspect: the fields assigned for replanting under wheat must be freed earliest. In addition, the stubble must be burned off completely and this equals the action of three expensive chemicals. Phosphorus and potassium fertilizers must always be applied, with plowing to a depth of 18-20 cm, and surface tilling leading to the planting condition envisaged in the farming procedures. If the soil is dry, it is a good thing to roll it and leave it thus until planting. If this method is observed for the preplanting preparation of the soil, the future planting will largely be guaranteed both against diseases as well as against drought.

These questions are of very great significance for the future wheat crop. We must approach their solution attentively and responsibly.

10272

CSO: 2200/106

CONSUMER, PRODUCTION, HOUSING COOPERATIVES' EFFORTS SUMMARIZED

Prague LIDOVA DEMOKRACIE in Czech 4 May 83 p 1

[Article: "The Contribution of Cooperatives" in the column "Timely Topics"]

[Text] Our consumer, production and housing cooperatives that belong to the national cooperative unions and the Central Council of Cooperatives play a significant role in the realization of important tasks in economic development. They are socioeconomic organizations with a broad membership base of over 3.5 million cooperative members. Which means that the Czechoslovak cooperative movement is an important social organization in terms of its size and activity, and an essential element of the National Front's political system. A characteristic feature of the cooperatives' diverse activity is primarily the fact that within them the interests of the cooperative organizations and members are mutually permeated and combined with the interests of entire socialist society.

In Czechoslovakia there are in all 956 consumer, production and housing cooperatives. The strongest are the consumer cooperatives, with nearly 2.4 million members and over 150,000 employees. The consumer cooperatives operate over 26,000 retail outlets, nearly 14,000 catering facilities, and about 450 facilities that provide accommodations. In the Czech Socialist Republic alone the consumer cooperatives are supplying approximately 4.5 million residents in villages and small towns. The consumer cooperatives are concerned also with purchasing fruit, vegetables, honey and other produce. They have their own food-processing plants that add variety to our domestic market. Specifically the consumer cooperatives are constantly improving the conditions under which the rural population is able to do its shopping. In the CSR alone they invested in years past over 8.0 billion korunas to develop and renew their capital assets base. With the help of these resources, 9 department stores were built in the CSR, 322 purchasing centers, 3,668 retail outlets, 134 retail outlets for construction materials, and 940 public caterign plants, including 18 hotels.

The production cooperatives now employ over 184,000 members in more than 6,100 shops, plants and centers. The cooperatives are supplying 45 percent of the custom-made furniture, clothing and footwear, and their share of automobile repairs is about the same. In the repair, maintenance and modernization of the population's housing stock their share is 55 percent. During the past five year's the volume of services they provide for the population increased by nearly one-fifth, to more than 5.3 billion korunas. The production cooperatives include 30 cooperatives of disabled persons with 26,000 members, and 41 folk-art and arts-and-crafts cooperatives with 16,000 members.

The Czechoslovak housing cooperatives are managing a housing stock of 750,000 housing units, with more than 2.5 million residents. Which means that every 6th person in Czechoslovakia is living in a cooperative housing unit. In recent years, moreover, the cooperatives' share of total new housing construction has reached 35 percent. The members' activity is the basis of the housing units' economic management and maintenance, on the principles of self-management and self-aid.

The 9th Congress of the Central Council of Cooperatives will be held in Prague at the end of this month. The congress will show how the cooperatives' participation in the political, economic, social and cultural development of the communities, towns and okreses has intensified since the last general election, and how closely the cooperatives are linked to the life of their districts, to the national committees and the organs and organizations of the National Front. After the congresses of the national cooperative unions, the period of preparation for the 9th Congress of the Central Council of Cooperatives is proceeding in the spirit of fulfilling the conclusions of the CPCZ Central Committee's sixth session, which should result in the more efficient management of services and in their more flexible development. The cooperatives are expected to make a significant contribution specifically to these tasks. The development of services involves also the important task of reassessing the present indicators of the plan in this area, so that the plan will govern the cooperatives not only in expanding their services and work for the population, but primarily in constantly improving the quality of their services and work. The production, consumer and housing cooperatives carry a no small share of the responsibility for the operation of services, for their completeness and availability in terms of place and time, and for offering them at reasonable costs and prices. In the spirit of their outstanding traditions, therefore, we expect the cooperatives to contribute significantly toward raising services to the level of our socialist society's needs.

1014

CSO: 2400/300

ENTERPRISES WARNED ON CONTINUED INEFFICIENCY, BAD QUALITY LOSSES

Prague RUDE PRAVO in Czech 12 May 83 p 1

[Editorial: "Production and Use"]

[Text] In distinction from the preceding two years of the 7th Five-Year Plan, this year our economy and our industrial production in particular are to attain a higher growth rate. After a transitional period during which lower tasks were set for industry so that it could cope with the new conditions and desirable structural changes, the requirements placed on industry are again rising.

As Comrade G. Husak said from the reviewing stand on May Day, "These tasks are essentially being fulfilled successfully, despite the complex conditions. Proof of this are the results of the two years that have elapsed since the congress, and also the successful first quarter of this year."

But he went on to warn: "However, the attained results and certain positive trends in the functioning of the economy must not lead us to complacency. It is still necessary to concentrate all the forces of society on greater economy, higher labor productivity, greater efficiency and better quality of all production, increased performance of the economy, perfection of its management, and better utilization of scientific and technological knowledge for the economy's development."

In terms of some indicators of the plan, the adopted intentions are successfully gaining substance, but in terms of others it is definitely necessary to add more. In particular, even more attention must be devoted to marketing the produced goods by the individual directions of their use. And also from the viewpoint of the individual ministries. For example, deliveries to capital construction are not proceeding at the desired rate. It will be remembered that last year about one-fourth of the projects scheduled for completion were not placed in operation. Deliveries for capital construction are not showing any change for the better even this year.

On the other hand, deliveries to the domestic market and deliveries for export to socialist countries were increasing at a faster rate at the beginning of this year than had been planned. Deliveries for export to nonsocialist countries show an increase in terms of their wholesale prices, but not at their f.o.b. border prices, which is the more important indicator from the viewpoint of ensuring external economic equilibrium. From what does this difference stem? Our producers value the results of their work higher than what foreign customers are willing to accept.

From the viewppoint of the ministries, the export tasks at f.o.b. prices are being fulfilled or even exceeded by metallurgy, heavy engineering, electrotechnical industry, and by the Czech and Slovak ministries of industry. On closer examination, merely from the viewpoint of export to nonsocialist countries at f.o.b. prices, the electrotechnical industry and the Czech and Slovak ministries of industry are leading, with a larger increase over last year than what this year's plan calls for. It should be added, however, that the period to date is not yet conclusive for the final results, and therefore much can still be corrected in the other branches.

In what ways? None of them is new, but the consistency of their application is lagging. The first among them presupposes continuous and even fulfillment of the planned tasks. Not only in terms of quantity, which usually is met, but also in the desired assortment. And this is the first obstacle, easily demonstrated on the example of deliveries of spare parts. On the whole the plan of deliveries is being fulfilled and even exceeded, even a reduction of the output of certain types is being considered, and yet some spare parts are not available. Simply stated, there is too much of some spare parts, but not enough of others. What makes it so difficult to set up the production programs for even supply of the demand in a breakdown by assortment?

Another way of improving the situation is to consistently improve the quality of the products and to raise their technical and economic level. Products that are of poor quality and technically obsolete might be advantageous from the viewpoint of an enterprise, but from the viewpoint of society as a whole they are unprofitable and in a number of instances might even be obstacles to further progress and development. Moreover, such a product either cannot be sold on the foreign market, or its sale is inefficient. It must be emphasized once again that our economy is not in a situation to allow itself to earn foreign exchange merely by increasing the physical volume of export. This foreign exchange must be earned primarily by justifiably raising the sales prices, which in its turn depends on the utility characteristics of the merchandise offered foreign customers.

There are of course also other ways. Jointly with what has been said above, they clearly confirm that every production wishing to be efficient must consistently satisfy the directions of use and their requirements in terms of assortment, quality, technical level, reliability of operation and other criteria. At all production enterprises the simple equation production = use must apply. There are many enterprises who are able to prove that this can be done; they are exporting their products efficiently or supplying their domestic customers well.

However, the appropriate indicators show that not all production is being put to use and is satisfying the needs of society. The federal government's report on the fulfillment of its program declaration, presented by L. Strougal at the joint session of the Federal Assembly's two chambers on 16 March of this year, notes the following: "Nobody should expect that society will endlessly continue, in the same way as it has up to now, to cover the losses of the enterprises and economic production units resulting from inefficient production, product of poor quality, and unsalable products."

What happens to the products for which there is no market? They appear in the inventory positions and represent resources--materials, energy, labor--that are

not merely used up, but are literally wasted. Economic instruments are used to combat unwarranted increases in inventories. Last year, for example, the Czecho-slovak State Bank tightened the conditions for providing operational credit and intensively checked inventories. It refused a thousand organizations credit for inventories (the year before it was 600 organizations) totaling 7.8 billion korunas. Of the unplanned increases in inventories the bank provided credit for merely one-half; in each case these were inventories provenly needed to fulfill this year's planned tasks.

The federal government's Resolution No 157 of last year is likewise devoted to the problem of inventories (consisting mostly of products for which no use has been found as yet). It outlines a long-range concept of the bank's influencing inventories by means of economic instruments and increases the economic organizations' khozraschet responsibility for the development and use of inventories. The purpose is to achieve this year a reduction of inventories by 2.4 billion korunas, to accelerate their turnaround time by 1.3 days, and to utilize 7.5 billion korunas' worth of inventory reserves from years past. It must be admitted that similar intentions were to have been realized in recent years, but the results were unsatisfactory. For the more consistent realization of the mentioned requirement, therefore, the economic instruments have been tightened, and any enterprise that in the past did not pay much attention to the requirement that production a use must immediately change it past economic practice or will find itself in serious economic difficulties.

It is worth considering the contradiction that can be observed in the operation of many enterprises. On the one hand they began with great responsibility the social audits of fuel and power consumption and have introduced many conservation measures. Similarly a number of enterprises are responsibly striving to reduce their consumption of metals (but such enterprises are fewer). Of other enterprises it can be said that they are increasing the level of the process of adding value. But on the other hand, materials and energy are continuing to be used for production that does not have an ensured market. How is it possible that the same enterprises are striving to economize on the one hand, but on the other hand they are simultaneously wasting resources?

The explanation is not so difficult. The reason is the unsatisfactory state of technical development at the enterprises, of applying scientific and technological knowledge to practice, the low intensity of, and responsibility for, the efficiency of the innovation processes, the efforts to upgrade production, etc. To economize by reducing the specific consumption is only one side of the coin. Its other side must be greater efficiency in the use of raw materials, supplies, fuel, electricity, machine capacity and direct labor to produce products that are significantly better than the previous ones, in terms of their utility characteristics and quality. Unfortunately, specifically this is what is not being ensured successfully everywhere. And this is then reflected in ensuring the profitability of export, in satisfying the demand on the domestic market, in the realization of the investment projects, as well as in the economic activity of the enterprises.

This year, therefore, the planned growth rate of industrial production must be achieved not just for any kind of production, but primarily for production that satisfies the requirements of the national economy. In other words, production that has an ensured market because of its indisputable quality, and not because there is no other choice.

NEW MEANS SOUGHT TO REGULATE CAPITAL FLOW

Budapest GAZDASAG in Hungarian No 1, 83 pp 82-95

[Article by Jozsef Sari, deputy main department head of Hungarian National Bank: "Conditions of Capital Flow"]

[Text] Based on the resolution of the MSZMP's Economic Policy Committee, a commission examined the regrouping of means [capital] as early as in 1966. In connection with further developing the economic management system, the topic of the flow of capital has come on the agenda again. This is made timely by the importance of enterprises, the shortage of development funds at the enterprises and the more consistent implementation of the principle of a profitociented interest system.

From the financial aspect the broader, freer application of the enterprises in investing their own resources is increased because:

* over the long range their own development opportunities of a significant portion of the economic operating organizations are limited;

* at the dynamically growing enterprises their is an actual shortage of capi-

tal, a trend which is rising;

* at the same time several economic operating units have a certain amount of available development funds, but these are not enough for independent investments; however, with expeditious mobilization and concentration the active participation of already existing capital in production and sales could be accelerated, and the allocation of resources would improve.

At the same time the risk of investing has increased in recent years due to:

- * the more moderate rate of increase in the markets (and even decrease for some products and product groups);
- * higher-quality requirements for the products;
- * stricter payment conditions.

The more liberal flow of capital—which is institutionally organized and ensured—the broader participation in business partnerships and the development and undertaking of a production structure not strictly tied to a profile assume modification in the now decisively hierarchically constructed management system with its institutional character, which also aids the expeditious regrouping of capital which is even more necessary under the more difficult economic conditions.

According to the current statutes, the enterprises may transfer their production capital and available development funds to each other outside of partnerships and by participating in business partnerships. The rules for forming partnerships for the purpose of regrouping capital are flexible. The economic operating organs may use the available money in their development funds to set up partnerships (to provide the starting capital); they may transfer their fixed assets and inventories and offer other cooperation of value as well as the development loan which provides the development fund. That is, the members may also make use of the bank loan to set up partnerships. Beyond this, creating the financial means for partnerships is also helped by the local councils being permitted to furnish capital for this purpose from their development funds and by the interest representation organs of the cooperatives from the joint funds of the cooperatives. The new statutes have opened the door wider for the more liberal enterprises, thus enriching their formats, but they still restrict the flow of capital because formats which are necessary for a capital market (shares, bonds, that is, valuable papers which the owner may sell of use for collateral for secured loans) have not been created. The restrictive character of the statutes is expressed also by the fact that refinancing is not permitted when funds are transferred outside a partnership and so are acquiring income from annuities.

The Formation and Flow of Capital

Further development of the economic management system, and within this the enterprise management system, requires the introduction of unique mechanisms not used so far in the socialist national economies, or used only partially. This is conceivable in a market-oriented planned economy only if a (the larger) portion of the flow of capital can take place completely freely and without governmental interference. In essence the solution can be built on three conditions.

- [1] On the one hand it must be made possible for savers to choose freely within the country where they want to invest their money, in what and for how long; and on the other hand the enterprises must have the right to make independent decisions as to what they want to produce (what sales they want to handle), in what kind of enterprising format and with what kind of allocation of finances.
- [2] The role of the financial institutions (the credit system) must be strengthened on the one hand by the quantitative increase in bank loans and financing the enterprises by means of a greater variety in its format, and on the other hand by developing forms of loans typical for capital purposes and by implementing the sale of them.
- [3] The place of the national budget in redistributing the national income must be reevaluated, partly by decreasing the state loans and basic benefits and partly by modernizing the national distribution and credit system.

Under the given conditions we must expect at this time two processes working in opposite directions to prevail and affect the flow of capital.

- * The rules of the regulatory system which limit the growth of the money funds of the enterprises are decreasing the size of the development funds of the enterprises and thus also the flow of capital between the economic operating organizations.
- * At the same time the enrichment of the partnership, small enterprise and cooperative formats, the increased possibility of private enterprises and authorization for the establishment of subsidiary enterprises improve the conditions for the flow of capital.

Comprehensive evaluation of and planning the size, composition and direction of the flow of capital are some of the main future tasks for financial planning, also making use of those market factors which influence the supply and demand for capital. This is a new type of task and a unique one, for which it is difficult to make meaningful suggestions for the time being due to the lack of experience. It occurs that this question should be treated within the framework of planning the so-called miscellaneous forms of accumulation. Planning should particularly concentrate on two things: how large an increase of enterprise investments can be expected in the visualized system and in it the ratio of business of the various branches among each other; and second, what is the distribution of the population's savings among cash, savings deposits and monetary accumulations of capital character. In planning this last item the relationship between the population's income and savings may receive a role and, within this, the question of what desire for liquidity accompanies the tendency to save. Accordingly:

* within the framework of enterprise planning, the capital needs for development and replacements should be evaluated, as should the composition of resources for it, with attention also to the intentions of the enterprises as to how they intend to obtain the missing resources;

* in connection with the population's income and spending plans the mobility composition of the savings should be treated, as should the population's tendencies for liquidity, and as its consequence, the sums that could be considered for capital investments.

The formation and flow of capital is expeditiously examined by focusing on the management and creation of enterprises as well as on the supplying of supervision. Law No VI of 1977, modified by Legal Decree No 20 of 1981 dealing with the national enterprises, states that the task of an enterprise is to perform planned, efficient, economical and profitable activity in its sphere of operation to serve society's general interests. With this it helps implement the tasks defined in the national economic plans, thus contributing to satisfying society's needs. The enterprise conducts independent economic operation within the framework of the statutes and in its area of operation as defined in its founding charter, using the means entrusted to it by the state as well as other means that it handles, and the manpower it employs. That is, the enterprise's area of operation is determined by the organ which establishes it.

In the case of the cooperatives, this establishing takes place with the personal and financial joining of the interested members, but one condition for it is that at the time it is founded, 15 members must be together and accept personal and lasting cooperation as well as come up with the minimal funds needed for

the operation. In addition to paying the charter fee the member's contribution of value may also be in the form of land, other production equipment (thing of value) or money to be owned (or used) by the cooperative.

Enterprises, cooperatives and organizations may establish enterprises in the form of partnerships. These can be business partnerships, companies, subsidiaries, small enterprises, production speciality groups or enterprise work associations [VGMs]. Citizens may organize cooperatives, small cooperatives, speciality groups and economic work associations. It can thus be concluded that a wide choice of forms is available to the interested parties. In spite of this, from the viewpoint of the formation and flow of capital it represents a certain limitation that the starting capital of the partnership cannot be converted into securities—with the exception of partnerships set up with foreigners.

In order to aid the formation and flow of capital it should be left up to the founding members to decide freely:

* whether they will proceed according to the present rules when they create the partnership or company or translate their ownership rights and the rights to income, which accompany their membership, into securities;

* if they want to obtain the starting capital or its enhanced amount by issuing

stock for joint enterprises or share coupons for cooperatives;

* if they will make up the missing funds needed to handle their tasks by bank loans or if they will solicit loans on the domestic--yet to be created-capital market (primarily by issuing bonds).

The possibility of the increased attraction of domestic savings into production has been created by the fact that—apart from those activities which bear political and foreign trade interests of national interest and those which fulfill the prime social needs—the organ or organs which are also able to make available the capital for its operation may set up an enterprise. Citizens may form cooperatives, small cooperatives, speciality groups, etc. But it should be made possible for broader circles of the population to contribute loan capital to the operation of enterprises. Thus the money's owner can decide whether to keep his savings in the form of money (cash, money on account) or convert it to capital.

At this time the bank grants investment loans mainly for development purposes and to a lesser extent for replacing fixed assets. But the goal of associations is not exclusively to increase production or to change its composition but also to handle the business more reasonably and better. It appears, therefore, that the expansions such as the more reasonable handling of export and import, the handling of the shipping tasks or the performance of public warehousing activity which are otherwise qualified as essential needs for working capital should be qualified as the same kinds of development as the expansion of fixed assets and working capital has been in past practice.

To attract foreign capital, which is primarily for development purposes and is growth-oriented in character, should be permitted in the future also generally within the framework of the present statutes, that is, to form business partnerships or companies with the participation of a foreign partner and set up

cooperative ventures by expanding the capital of the existing enterprise or by taking out foreign loans.

A wide-ranging debate has developed in our country on the question of directing and supervising the state enterprises. Among the various ideas, I consider those to be meaningful from the viewpoint of our topic which want to separate the professional and disciplinary directing from the ownership and property management tasks.

Freer money management and flow of capital mean increased supervisory tasks and therefore the statutory specifications concerning the supervisory commissions and, beyond the present financial control the role of supervision by the banks should be generally implemented. An additional aspect which occurs is the more open or, to phrase it more accurately, the obligation for limited public accounting compared with the present, and for partnerships and companies established by means of issuing securities.

The flow of money (capital) may be aimed at permanent investing or at a temporary transfer in the form of an interest-producing loan. Ways for permanently assigning and transfering capital may be:

- * direct flow of capital between the enterprises and the economic operating organizations;
- * establishment of and formation of partnerships;
- * permanent placement of capital by the banks;
- * granting or increasing capital by the state;
- * contribution in the form of investing property (and money) by the population on the basis of membership;
- * capital import.

Conditions for increased capital flow between the enterprises can be created decisively when an enterprise, operating within the framework of the economic regulatory system and subject to the market's value judgment, may implement that properly interpreted group interest so that it does not absolutely have to spend at any cost its development capital, and thus an available resource which can be regrouped is formed. In my opinion the statutes should be modified for this purpose in two ways: it should be declared that once an enterprise has fulfilled its previously accepted contractual obligations, it should without any legal disadvantage be able to transfer its free monetary tools permanently or temporarily to other economic operating organizations. If the enterprises are extending loans to each other, they may set their interest rates up to the level of the interest the bank charges.

Recently we have seen several proposals which intend to give a large role to the banks in the enterprises and partnerships and in forming and organizing them. The law dealing with finances makes this possible, and the State Development Bank as well as the Hungarian Foreign Trade Bank, for example, are participants in partnerships. These initiatives will probably be expanding in the future; but my opinion is that the main task of the financial institutions will also be the handling of loan capital over the long range. This is what the international data indicate, but it also follows from the fact that the banks

have relatively little capital of their own, and in placing the resources that they attract (collect) they have to pay much attention to the rules of liquidity.

In the system where a freer flow of capital between the individual sectors and the economic operating organizations is assured, the role of the national budget in financing the enterprises will undergo inherent changes. Primarily this will mean changes, quantitatively as a decrease and qualitatively in the forms of financing. According to these ideas the budget should continue to provide the final awarding of funds to the major enterprises significant from the national economic viewpoint to the extent of the fixed and operating capital needed when they are established, and to the organizations in the noncompetitive sphere which perform enterprise economic operations and activities that are not productive in character. It would also represent a change if the state (development) loans made with repayment and interest obligations, including the base grant form with yield sharing, were eliminated; and at the same time, or gradually the banking system should also take over this task by implementing uniform lending conditions.

The proposed change in tasks means that the state's obligations would greatly decrease, and thus, while taking into consideration the improvement of the budgetary balance, certain monetary resources (or parts of them) used currently to finance the enterprise developments could be left at the enterprises. The opinion can be considered practically unanimous that the most suitable tool for this purpose is to decrease the extent to which amortization is centralized, or possibly completely to eliminate it. At the present time the suggestion is not timely because on the one hand the treasury's income would decrease if amortization were eliminated, and on the other hand the direct development opportunities of the enterprises would increase. And the very goal for the Sixth 5-year Plan period is to improve the budget's balance and decrease the tensions caused by investments. The idea appears to be more realistic that the dynamically growing enterprises should use the method of accelerated amortization.

I consider permanent capital investment by the population to be realistic only in the cooperative sector—apart from the private enterprises and from property leasing. The main form of transfering capital is property taken into the cooperative at the time it is founded or when it expands. It can be fixed—asset or working capital or a sum of money paid for a membership share. The present statutes distinguish two kinds of membership shares: founding (member's) shares and bond shares issued for growth.

The founder's shares should in the future also be issued according to the rules of the present statutes with the condition that the income of the members should actually depend on the results the cooperative achieves—without any limitations. Considering its essence, the bond share is a loan to the cooperative by the members; thus it also touches the content characteristics of a bond, and therefore we may also interpret it as a cooperative bond.

We have recently seen the idea in trade literature that the enterprises should be reorganized as companies or the existing major enterprises be converted to this format. At the same time they bring up the possibility that citizens should also be allowed to purchase shares. In my opinion the share corporation format may fill a positive role in the Hungarian economy in those cases when a joint company is set up by economic operating organizations and when the joining members decide to issue shares for the values they have taken into the company. This solution has dual advantages; one is the management method which derives from the share corporation format, and the other one is that the joindividual members may leave by selling their shares, while new ones replace the capital removed from the corporation in this manner. Thus the change in share owners does not affect the financial situation of the corporation or its format or method of management. But one cannot agree with those who propose to convert the already existing, primarily socialist major enterprises to the format of share corporations. This is because by this solution only formal changes would be taking place, but these would not change in essence the enterprise's place, role or income-producing ability.

And finally let's examine the role of foreign capital and the possibilities of attracting it to both the domestic enterprises and the foreign operations of domestic enterprises. In the coming period we must expect the lingering recession and the more tense international situation to have a braking effect on capitalist investment intentions. At the same time the narrowing of enterprise development resources will place even more emphasis on the creation of joint enterprises and make it even more necessary. Therefore it is my opinion that more thorough market research should be done in the future by Hungarian interests also for the purpose of attracting production capital, since our statutes concerning foreign investments and the transfer of profits generally conform to the international customs. The idea also occurs that the Hungarian enterprises should seek additional opportunities to establish joint companies abroad with foreign firms. The Hungarian Chamber of Commerce could take a serious role in this work.

Forming Domestic Capital, Formats for Economizing

An outstanding role is awaiting the population's money savings in forming domestic capital—even when we take into consideration the standard of living which has been stagnating for a few years. The condition for this is that other forms of saving money should be available, mainly for money that can be considered capital, besides the savings account—the only form of savings available in the past to the population which produces income. The goal can be to convert the monies saved to actual "capital accumulation," by committing them for longer periods of time and accordingly receiving higher interest rates. Those forms of saving have significance from the viewpoint of forming capital because they function as a direct investment in the economic operation of enterprises. But results can be expected even from the new formats only if the population is psychologically prepared and informed about this, if the investment can be transferred or sold and if by placing it on deposit, loans can be obtained from the financial institutions.

The new savings formats call for legal regulations and for an institutional system where the sale and purchase of saleable papers is handled, their safe-keeping is assured and loans are made there for them when desired. Therefore,

an important role is waiting for those organs which issue and sell the stocks because the population, insufficiently informed in financial matters, absolutely must have enough information about the financial situation and reliability of the borrower who issues the stock. Only this can be the needed guarantee for the population that its demand will be returned to it on time or that it can sell it before expiration. More accurately, we could also word it this way, that the citizen must be seemingly as well informed as the banking organization making a loan.

In the following section I will summarize my suggestions for bonds, goaloriented shares and savings accounts.

The bond is a valuable paper which can generally be sold by the issuers as well as by the purchasers. It would be used in loan situations with a 5 to 15-year expiration, mostly with fixed-interest rates (or in exceptional cases, in combination with the profits), in denominations between the deposit and the loan interest rate corresponding to the length of time of the commitment, depending on the length of time, to its expiration. Bonds could be issued by the state (the treasury), local councils, enterprises, cooperatives, institutions, financial institutions or social organs. The population is expected to be among the investors primarily, and to a lesser extent the financial institutions (mainly as brokers) and the enterprises. The bond would be valuable paper which can be cashed by the bearer and sold freely.

The development bonds are governed by the same rules as membership bonds with the difference that when the development has been accomplished the cooperative buys them back, so that this format is not a permanent investment but in essence a loan. Even though Law No 35 of 1971 declares that no interest can be paid for development bonds, it ties the size of the dividend to the interest paid for savings accounts committed for at least 1 year (no more than 2 percent higher than that). In my opinion this restriction should be lifted, and an identical yield as that of the savings account interest corresponding to the length of time of the investment should be permitted. In addition, the limitation on the amount that can be committed should be eliminated, as should be the feature of tying the purchase of development bonds to membership. In other words, the manifestation of ownership rights in the cooperative should be the membership bond, and the development bond should be proof of lending in broader circles, translated into paper of value, that is, the bond of the cooperative.

Even today, the savings account shows a wide richness of formats. Still, progress could be made here in two respects. One of these is that the interest rate paid for notes of savings committed to 5 years should be tied to the interest rates paid on bank loans in its movement, leaving an interest rate gap of 2 to 3 percent. Also for commitments of at least 1 year, the same interest should be paid as for savings book deposits committed for the same length of time. The other way is to connect the various goal-oriented savings with the payment of interest rates which cover the consumer price index, that is, the application of the constant-value clause. In this case the advance savings for an apartment must without any question be mentioned in first place—and we have already seen this in several trade articles—but other goals can also

be mentioned, for example, a car (to the extent of the amount over the mandatory downpayment) and apartment furnishings.

The Hungarian banking system is working with a given organization, and in this treatise I want to touch upon this only to the extent to which modernization of the credit system requires this in the interest of implementing a better organized flow of capital. Two banks have roles in our system (I will mention the other financial institutions only where it is absolutely necessary):

- * the central and bank-note bank of the socialist state: the Hungarian National Bank, which due to its sphere of tasks handles bank-note and credit banking functions;
- * the organized institution of capital flow, the business bank which handles the traffic of valuable papers, the Central Exchange and Credit Bank Rt [Corporation].

The legal standing of the Hungarian National Bank [MNB] is regulated by Law Decree No 36 of 1967 by the Presidential Council of the People's Republic, which declares that it is the bank-note bank of the Hungarian People's Republic and the central bank of the national economy. Its circle of tasks as the bank-note bank is defined in providing a watch over the efforts to ensure the value of the forint, issuing bank notes and coins, implementing the credit and interest rate tasks approved by the government and accumulating gold and silver inventories. As the central bank, within its sphere of tasks, are to make short, medium and long-term loans, the exclusive right to maintain bank bills and handle their settlement, and international trade and perform foreign payment, credit and other banking operations, and noble metal management; and thus it is the central organ for operative foreign currency management and foreign currency monopoly. In addition to these it may also perform other tasks assigned by the government.

The bylaws of the Central Exchange and Credit Bank Corp. enable it to conduct essentially all types of business within the framework of banking, exchange and goods: particularly, the various forms of making loans; the purchase and sale of demands and valuable papers and the making of advances for these; the clearing and purchase of drafts, assignments, annuities, bonds, checks, obligatory notes etc; acceptance of deposits; establishment and organization of business or industrial companies, takeover of existing enterprises and participation in their reorganization.

Parallel with modernizing enterprise independence and enterprise management, the role of the financial institutions and the credit system should also be modernized and further developed. This can take place in two areas: on the one hand by expanding the present forms of the credit system and increasing the areas of financing, and on the other hand by developing various forms of capital loans, handling the banking tasks of creating capital, participating in the creation of enterprises and handling the sale of valuable papers. This last branch of business is justified even more because there is no stock exchange in Hungary, and in my opinion there is no need for one.

Expanding the area of credit management and increasing the role of bank loans are discussed in the economic operation of enterprises because under the present circumstances the state also performs some transactions within the sphere of capital financing which in a unified credit system should be handled by the financial institutions. The standard of requirements to be reached by credit should be raised higher than in the area of money supplied by the state, and the results actually reached can also be supervised better with banking tools. Therefore the MNB should take over the handling of all those capital financing tasks in the competitive sphere which can be implemented in some form under bilateral obligation conditions. Thus we should give priority to bank loans over state loans.

It will gradually receive more emphasis in the future that the credit system should be enriched by broadening the forms of loans, which at the same time could also mean changes of content in the financial affairs of the enterprises. Thus, for example, the making of operating capital loans should be brought closer to financing business deals, that is, the short-term loans for specific cases should in general be tied to the orders or delivery contracts. At the same time new conditions should be set up for commercial loans in order to handle more smoothly the trade between enterprises and to reduce the financial and payment problems to the possible minimum.

Increased use of the commercial (merchandise) loan between enterprises can be visualized if the loan for 90 days is made not at the burden of the enterprise's own development fund but is placed into the usual order of handling sales. Expansion of the commercial loan in this sense assumes the use of some kind of negotiable paper of value which replaces money. The draft seems to be best suited for this purpose. Money brought into circulation by draft discounting is in close relationship with sales.

In order to handle payment difficulties which occur from time to time and in the interest of decreasing the problems caused by the spiraling effect, the solvent economic operating organizations instead of (or in addition to) the present liquidity loans could use the open revolving-account loan construction. The essence of this is that the accounting balance of the enterprise could temporarily—but at any time—go into the red up to the extent of a predetermined sum, depending on sales. The financing banking organization would determine the size of the revolving account's loan limits during the course of negotiating the annual credit contracts.

In the case of loans for fixed assets which are closely related also to the loans which finance the long-term operating capital connected with developments, in my opinion the loan types could be increased by the bank applying broader differentiation to determine the conditions for making the loans, as well as the actual conditions for the loans (deadline for repayment, interest rate, profitability, foreign currency yield etc.). In order to accelerate the change of structure, the method of incentives and restrictions should be applied more in the future partly for enterprises which belong to various branches (for example, in setting the minimum income-to-capital ratio, in the size of the mandatory contribution to the development fund and in the conditions for producing the net foreign currency yield), and on the other hand the interest

conditions, in which the repayment deadline should be made to conform better to the bank's credit resources, primarily to the conditions of the foreign loans. Among other things, the method to do this is to advertise foreign loans from time to time in the form of offering to make loans, or the conditions of a foreign loan received for specific developments must be passed on to the domestic borrower.

New Business Branch: Traffic in Valuable Papers

Professional handling of the traffic in valuable papers done in conformity with the statutes requires a system of institutions which does not yet exist in the socialist economy—at least not in this country. It would therefore be necessary to create a financial institution for this purpose or to assign one of the already existing ones—for example, the Central Exchange and Credit Bank Corp. described before—to handle the new tasks.

The phases of traffic in valuable papers are: issuing (pledging, placement), traffic (sales-purchase), safekeeping (deposit), acceptance for loan collateral (secured loans) and redemption.

The purpose of issuing the above-discussed valuable papers is to raise capital. The financial institution, which may also issue valuable papers of its own within the framework of its own liquidity, would in essence serve to collect the idle monies of the economic sectors and of the population and to mobilize it better for the economic operation of the enterprises. The institution which handles the traffic in valuable papers would be working exclusively with the existing idle money and not with transaction monies issued anew by the bank of issue. The financial institution would conduct extensive reliability, solvency and liquidity investigations among the issuers and would perform the handling, traffic and acceptance for loans of only those valuable papers which satisfy these three viewpoints. The goal is to offer its clients investment opportunities with optimum profitability and to broker only expressly modest deals. In the final analysis the guarantee for the possibility of raising capital and for the flow of capital is the profit and income-oriented economy in which the enterpreneurial, the investing and the overall national economic interests meet. This triple community of interests can be considered the theoretical optimum.

The National Savings Bank [OTP] has already taken the first steps to issue community bonds. The conditions seem to hint that in addition to profitability they are also expecting here that the lenders will have an interest in the good of their community because the yield of the bonds is not any more advantageous than the interest paid on deposits committed for the same length of time. The use of this format in broader circles is justified and the savings associations could also handle the tasks associated with trafficking (salespurchase), as well as possibly accepting them as loan collaterals and deposits, even if they would not be issuing them. Similarly, these local financial institutions could also take care to handle the special-purpose bonds—from organizing the issuance all the way to redemption.

The financial institution handling the traffic in valuable papers could also directly set up enterprises, but beyond this it would also handle the establishment and the arrangement of partnerships between economic operating organizations which would increase confidence toward the valuable papers and would make it acceptable to trade them before expiration and their continuous buying and selling by other organizations and persons. In general we can start out from the point that the ownership rights of shares and bonds can change only by transfer, because the enterprise issuing them itself cannot redeem them until they expire. For bonds which also represent loan arrangements, the guiding principle is that 10 to 15-year expirations are best suited for the economy's needs. It should therefore be made possible for the lender to be able to have access to his investments, if he so desires, even before the expiration date. The condition for this is that there should be a demand for the valuable papers in question or that the financial institution have such an amount of capital money of its own which is sufficient to buy the valuable papers for its own account or to make loans for them (secured loans) by accepting them as security.

Part of this line of thought is that the financial institution(s) handling the traffic in valuable papers are not only handling the capital market activities of the economic operating organs and of the population, but in this respect it is also the bank of the national treasury. Consequently—with the exception of treasury drafts, which the issuing bank may also purchase—all valuable papers of the state could be sold at this financial institution.

The Banking System

At the time that the economic management reform was being developed, there was already some debate about changing the banking system. The main characteristic of the present single-level banking system is that one single general bank, which represents the interests of the whole national economy and which operates on a nonbusiness basis, handles both the issuing bank and the credit banking tasks. A few other financial institutions are operating beside it, with special tasks. The majority of the opinions which have come to light in recent years feel about the future role and place of the banks that realistic economic competition requires that the market of the enterprises should be strengthened in this area also so that the actual credit market must also be created. And this, as they say, cannot be guaranteed under the conditions of the single-level banking system. Thus a bilevel banking system is needed.

On the one hand the creation of a bilevel banking system would mean that an independent bank which handles the functions of the issuing bank should be created by separating the issuing bank and the credit bank activities; and on the other hand, credit banks operating on the business basis should be created. Another reason for developing the profile of business banks is that the credit policy based on the principle of profitability can be implemented only if the banks are doing this in the form of business undertakings, that is, if the loans they make are based not simply on the promises made by the enterprises but on joint acceptance of the risks with them and if they are also interested in making successful investments.

A more modest variation of developing a bilevel banking system is when those making the suggestions consider it sufficient to separate the issuing bank and credit bank functions by creating independent banks; the financial institutions which split off from the issuing bank would be organized on the branch or on the regional basis. In essence this solution would mean a simple decentralization of the present organization of the Hungarian National Bank, with the condition that the traits that characterize business banks should prevail more strongly in the independent financial institutions.

In my opinion the bilevel banking system would not fulfill the hopes attached to it because it would not be suitable to represent the general national economic interests and partial, branch or local efforts would necessarily prevail, a situation which is not permissible in the national economy's present situation. We must pay attention to

- * the fact that changing the banking system and making it conform to the new conditions will need more time. We need a solid banking system in the years directly ahead of us in the interest of accelerating the economy's change of structure and shortening the transition time to the intensive stage.
- * Under the conditions of money and credit management strongly influenced by the national economic plan and the government-level decisions, it has not been possible for those tools of the indirect issuing bank regulations to develop which in the bilevel banking system would effectively replace today's management methods. But if the business banks issued supplementary account monies it would increase the equilibrium problems of the even otherwise inflation-sensitive economy.
- * At the present time only the population is "operating" with a surplus of money income, which on the other hand is handled by the OTP, and thus the opportunities of the business banks to be set up are practically extremely small to make loans because of the limited resources, and their funds could only come from the issuing bank, partly from foreign loans. And the probability of their participation in partnerships with their own monies is practically nil.

What I consider reasonable on the basis of the above is that the institutional handling of the flow of capital be done in a bank specialized for this purpose, for example, in the Central Exchange and Credit Bank Corp. The National Development Bank should continue to handle those functions which we consider to be direct state (budgetary) tasks in this area. The National Savings Bank should handle the savings accounts and take care of the money, credit and capital operations of the population as well as of the local councils. In local respects the savings and loan associations should also participate in handling the "capital market" operations of the cooperatives. In accordance with its profile, the Hungarian Foreign Trade Bank also has authority in monetary and capital market operations connected with foreign countries.

In the Hungarian National Bank the increased implementation of its functions as the issuing bank should be definitely isolated and this should also be made to prevail institutionally. The regulation would be implemented in dual relationship; on the one hand it would extend over the credit organizations operating within the framework of the Hungarian National Bank, and on the other hand over the independent financial institutions which belong to the banking system. In

my opinion, during the time period of the Sixth 5-year Plan progress should be made primarily in the areas of production and transportation. In today's situation, the hasty decentralization of the central bank would slow down progress and the effectiveness of the measures aimed at improving the equilibrium, because it would transfer the committee to an area where the conditions are not yet ripe for this.

The National Budget's Role in Capital Financing

To finance the capital of organizations which perform enterprise economic operation, the national budget uses the temporary as well as the permanent form of distribution. The supplying of national financial means is based mostly on economic policy considerations and on the execution of tasks identified in the national economic plans, and only to a lesser extent on profitability considerations. Therefore the idea occurs that in general the national budget finances the enterprises only in those cases when the realistic possibility of economy and profitability calculations does not exist. From this it follows that the distribution system of national monies should be modernized.

One of the important conditions for modernization is the further development of the economic regulatory system, which from the viewpoint of capital allocation requires that the long-term stability and normality of the system be guaranteed. The financial relationships between the national budget and the economic operating organizations should also be organized, especially the financing tasks which derive from the state's ownership position and the credit relationships between the banking system and the national budget.

Today the financing of investments with national capital is characterized by the budget, which makes recoverable resources available to the producing enterprises. Most experts on the flow of capital agree that the national budget should finance—generally with permanent basic grants—those investments which satisfy society's important needs, the infrastructure and the ones related to large energy production and the national defense, while the credit system should satisfy the financial needs of the enterprises in the competitive sphere. This solution would relieve the burden from the national budget in those financing tasks which it cannot fully cover anyway from its incomes. Nevertheless the state would also have a serious role in the future in development activity and in identifying the highly significant goals from economic policy or other viewpoints. For example, direct decisions by the state would be absolutely required for investments based on international CEMA agreements, establishment of more significant enterprises and pricing policy decisions.

And finally the state must be given a role in decreasing the size or eliminating enterprises which cannot be solved entirely by way of automatic methods.

For the time being it would seem expeditious for the Hungarian National Bank to take over all those enterprise-financing forms from the state which are recoverable, that is, the ones which represent advance expenditures that the budget has to make and are repaid from the untaxed profits of the enterprises or from the gross amounts of amortization. And the economic operating organs could make up their capital needs in excess of the bank loans on the domestic capital market.

When the credit policy guidelines are developed in the future and when the individual decisions are made about loans for investment, some kind of a system of optimum conditions should be devised among the minimum extent of the enterprise's own resources, the profit ratio in proportion to the capital, the expiration deadline and the interest rate. That is, economic efficiency interpreted in direct proportion to profitability can be increased only if the bank loans make the missing financial means needed for accumulation available to the economic operating organs by way of competition under more strict conditions than before.

Taking care of these tasks presumes that the state's financial and credit system is placed on new foundations with characteristics closer to the new monetary and credit system outlined above. The essence of this is as follows:

- * As a general principle, it should be declared that the current and accumulative items are segregated in the state's budget depending on the character of the expenditures.
- * The latter items are financed by resources designated in advance and contained in the budget's plan alternative.
- * Shortager must be covered in a planned manner.

The state would issue short-term treasury drafts with repayment due dates generally no longer than 90 days and treasury notes which expire within 1 to 3 years to cover the loss of seasonal-type temporary incomes, which would be purchased by the financial institutions (or in the ultimate case by the issuing bank) by discounting. The national budget would also obtain the missing monetary means needed to finance accumulations on the domestic or foreign capital markets in the future. The local councils would also handle coverage of their financial shortfalls in the above-described manner. In this area primarily, the population's interest in increasing and improving community services and their investment in the special local needs and in economic operating organizations based on satisfying their demands seem realistic—ccapled with income viewpoints.

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CURRENT, FUTURE EMPLOYMENT SITUATION DESCRIBED

Employment in 1982

Warsaw RADA NARODOWA-GOSPODARKA-ADMINISTRACJA in Polish 10 Jan 83 pp 41-42

[Article: "Employment in 1982"]

[Text] The following preliminary assessment of the situation in the realm of last year's employment was made in the Ministry of Labor, Wages, and Social Affairs, based on the results for 11 months of 1982.

Movement on the Labor Market

Overall employment in the socialized economy declined by about half a million persons, but the demand for new employees during the first 7 months showed a dramatic increase, reaching a level of more than 307,000 offers of employment in July. Of this number less than 10 percent represented newly created jobs, and 90 percent were previous jobs, vacancies created by changes in employment. During the first 10 months of 1982 the employment service referred 1,439,000 people for jobs (compared to 1,235,000 during the same period in 1981). The number of registered job seekers declined to 11,000 in July, but the number of persons on unemployment benefits declined from 800-900 in March-May to about 500 and remained at that level. This represents about 600 per labor-market 1,000, according to the indices used in Western Europe. Since the beginning of the year more than 13,000 persons had been engaged in intermediate jobs, and more than 1,200 were shifted to other jobs.

Graduates were an important labor market component in 1982. Of the 381,000 graduates, by 25 November jobs had been assured (funded scholarships and preliminary contracts) to 337,000 graduates (88.5 percent). The employment departments alone referred 243,000 graduates for jobs up to the end of July (compared to 130,000 during a similar period the previous year). The plenipotentiaries have about 7,000 jobs available, and new ones are constantly coming in. Since 1 January 1983 in connection with the law on the employment of graduates, beginning 14 December 1982 a new system of employing them went into effect, one which is adapted to the requirements of the economic reform.

Employment Decline

Average employment in the four basic sectors of the socialized economy, that is, industry, construction, transportation and communication, and trade amounted to 7,716,900 persons in the period from January to November 1982 and was lower by 398,300 persons, or 4.9 percent, than during the same period in 1981, but employment was nonetheless 41,100 persons higher than the projections of the Central Socioeconomic Plan (CPSG).

In socialized industry, during the period from January to November, employment averaged 4,472,200, which means a decline of 249,900 persons, or 5.3 percent, compared to the same period in 1981. Employment declined in all subsectors of industry (from 9.9 percent in light industry to 2.1 percent in the food industry), except for coal and power industry (where there was an overall increase of 4.5 percent, including a 5.1-percent increase in the coal industry). In small manufacturing employment declined 5.4 percent.

The employment decline in socialized industry amounted to 5.3 percent and was accompanied by a 3-percent decline in sold production.

It is disturbing to note that after the 11 months there was no connection between the increase in wages and the rise in labor productivity. Thus, for example, in the food industry the mean wage increased by 32.4 percent (excluding compensatory increases) compared to a similar period in 1981, but productivity declined by 1 percent.

In industry November was the fourth month in a row in which a rise in sold production (of 8 percent) was noted in comparison to a similar period in 1981. Compared to the month before, sold production amounted to 106 percent in August, 108 percent in September, 100 percent in October, and 104 percent in November.

The growth rate of sold production was helped by the favorable results which had been achieved for several months in extractive industry (a 12-percent increase in November) and the attainment of an 8-percent higher level in processing industry. A positive component of the situation is the rise in sold production in November 1982 compared to that of November 1981 noted in all subsectors of industry with the exception of the food and waste industries. The progressive activation of production was accompanied by a slight decline in employment of 2,700 persons (0.1 percent) in November compared to October. In October employment increased by 28,400 persons (0.6 percent).

In socialized construction employment in the period from January to November averaged 1,100,500 persons (including 892,500 in construction and installation enterprises) and was 7.1 percent lower than during a similar period in 1981. This was higher by 60,500 persons, or 5.8 percent, than the mean annual estimates of the CPSG.

In November 1982 employment in the construction and installation enterprises was lower than in November 1981 by 36,200 persons, or 3.9 percent, but higher than in October 1982 by 4,000 persons. Basic production had increased by 16.2 percent over the figures for November 1981 but declined by 2.3 percent from October 1982. This means that productivity declined during this period by 2.7 percent.

Transportation and communications. Employment in this sector of the economy averaged 1,049,500 persons in the period from January to November 1982, declining by 4.3 percent from the level of the same period in 1981. This level was 5.8 percent, 64,700 persons, below the level which had been estimated in the CPSG.

The figure for employment in socialized transport during this period of 1982 was 888,300 persons, a decline of 46,500 persons (5 percent). At the same time there was a 1.5-percent decline in PKP standard-guage traffic (in tons) and a 22.3-percent decline in public and branch motor transport, but a 2.5-percent increase in maritime traffic.

In communications, employment during that period of 1982 declined by 0.6 percent from a similar period in 1981 to a level of 161,200 persons.

In socialized trade employment in the period from January to November 1982 averaged 1,094,700 persons, which was 1.5 percent below the same period in 1981, and 26,900 persons, 2.4 percent, below the CPSG estimate.

Throughout the socialized economy, at the end of the 3d quarter of 1982 employment totaled 11,550,000 persons, which was 487,000 persons lower than in a similar period in 1981, that is, 4 percent lower, and also 100,000 persons, or 0.9 percent, lower than the mean annual employment level estimate in the CPSG.

Three of the 18 sectors of the national economy had an increase in employment during this period. There was an increase of 31,300 in education and development, an increase of 24,7000 in public health and social welfare, and an increase of 400 in forestry.

Wage Increases

During the period from January to November 1982 personal remuneration (including compensatory adjustments of employees) increased in four basic sectors of the economy by 271.4 billion zlotys, or 40.8 percent, over the same period in 1981, totalling 996.1 billion zlotys. The largest increases occurred in trade (46.9 percent) and in industry (45 percent, including a 75.7-percent rise in extractive industry), and the smallest increases were found in construction (28.2 percent) and in transportation and communications (31.6 percent).

In November 1982 99.2 billion zlotys was expended in these sectors for personnel remuneration including employees' compensatory adjustments. This is 33.6 billion zlotys (51.2 percent) more than in November 1981.

In the four basic sectors, the monthly remuneration along with compensatory adjustments averaged 12,869 zlotys in November 1982, up 4,694 zlotys, or 57.4 percent, from November 1981, but the figure was 11,326 zlotys, excluding compensatory adjustments, which means an increase of 3,311 zlotys, or 41.3 percent.

Compared the October 1982, mean remuneration (including compensatory adjustments) in these sectors increased by 467 zlotys, or 3.8 percent.

In the period from January to November 1982 monthly remuneration (including compensatory adjustments) averaged 11,074 zlotys in these sectors, up 3,604 zlotys, or 48.2 percent, from the similar period in 1981, but the figures without compensatory adjustments averaged 9,550 zlotys, up 2,138 zlotys, or 28.8 percent.

The high level of mean remuneration in industry (in November, 13,924 zlotys, including compensatory adjustments), especially in extractive industry (in November, 27,812 zlotys, including compensatory adjustments) had a great impact on the high level of average remuneration in industry in the four basic sectors in terms of average remuneration. In processing industries the mean remuneration was much lower, averaging 11,067 in the leather industry, for example (in November, including compensatory adjustments) and 10,726 zlotys in the textile industry.

In the breakdown by voivodships, in socialized industry from January to November 1982 the mean remuneration (including employees' compensatory adjustments) was highest in the following voivodships, in which extractive industry is concentrated:

Highest average remuneration Lowest average remuneration

Katowice Voivodship	17,476 zlotys	Przemysl Voivodship	9,220 zlotys
Legnice Voivodship	13,797 zlotys	Biala Podlaska Voivodship	9,364 zlotys
Konin Voivodship	12,211 zlotys	Ciechanow Voivodship	9,311 zlotys
Walbrzych Voivodship	11,792 zlotys	Sieradz Voivodship	9,372 zlotys

During the 3 quarters of 1982 remuneration in the national economy (including compensatory adjustments) averaged 10,218 zlotys, and ranged from one sector to another as follows: 11,345 zlotys in industry, 10,660-10,139 in construction, agriculture, and forestry, 9,980-9,081 zlotys in transportation and communication, municipal economy, state administration and the administration of justice, science, and the development of technology and engineering; 8,999-8,125 zlotys in trade, education and development, housing economy, finance and insurance, physical education and tourism, and culture and art.

Thus, the difference between the top average remuneration, in industry, and the lowest, in culture and art, amounted to 3,200 zlotys during the 9 months of 1982.

In comparison to a similar period in 1981, the highest increase in mean remuneration including compensatory adjustments took place in forestry (61.8 percent), public health and social welfare (50.5 percent), education and development (53.6 percent), and industry (51.7 percent).

The cost-of-living index of employees working in the socialized economy in October 1982 was 196.6 compared to October 1981, but for families of pensioners and retired persons it was 201.

The real earnings index of persons employed in the four basic sectors of the economy in October 1982 overall was 76.4 (including compensatory adjustments) and 68.2 (excluding them) compared to October 1981. During this period the corresponding indices for the real mean pension were 84.9 and 62.3.

Working Time Still Not Being Effectively Utilized

Some 7,185,200 employees in the material production sphere excluding, for example, agriculture, maritime shipping enterprises, and small manufacturing units operating under Council of Ministers Resolution No 112 were included in research.

During the 3 quarters of 1982, the situation in the realm of the utilization of working time by the total employees compared as follows to the same period in 1981:

Sick leave was up 5.5 percent (5.4 hours), Justified absences were up 16.9 percent (3 hours), Maternity leave increased 2.9 percent (0.4 hours), Losses from unjustified absences declined by 39.3 percent (1.1 hour), Work stoppages declined by 47.3 percent (2.1 hour).

Among the ministries covered by the investigation, the ministry of administration, local economy and environmental protection was one whose time lost from sick leave was higher than average (107.2 hours per worker) -- 107.3 hours per worker, but the highest figure was noted in the ministry of metallurgy and engineering industry -- 122.6 hours per worker.

In the voivodship breakdown, losses from hours not worked (average total absences: 162.5 hours per worker, including 107.2 hours per worker sick leave) were as follows:

The highest figures were noted in these voivodships:

Tarnobrzeg Voivodship 208.4 (151.0) hours per worker 197.2 (128.5) hours per worker 192.8 (129.7) hours per worker.

The lowest figures were noted in the following voivodships:

Leszno Voivodship 124.1 (77.3) hours per worker Lomze Voivodship 126.5 (67.5) hours per worker Plock Voivodship 133.9 (78.2) hours per worker.

In key industry, in the period from January to October 1982 the number of hours not worked per employee amounted to 198.1, compared to 197.3 hours during the same period in 1981. The 0.4-percent increase in hours not worked, which amounts to 0.8 hours per worker, came mainly from the growth rate of so-called other justified absence, sick leave, and maternity leave. On the other hand, the decline in losses from unjustified absences, releases for quarantine and care, and work stoppages helped relatively lower the shrinkage of work time.

Five and a Half Million Pensioners and Retired Persons

Pensions and Retirement Pay. In November 1982 5.5 million pensions and retirement benefits were paid, including 4.9 million out of the Retirement Fund (including the Fund for Veterans and Concentration Camp Prisoners) and 600,000 from the Farmers Retirement Fund. The number of pensions and retirement benefits increased by 622,000 compared to November 1981.

In November 1982 disbursements for pensions and retirement benefits reached 24.3 billion zlotys, up 5.8 billion zlotys, or 31.3 percent, from November 1981.

Overall, in the period from January to November 1982 disbursements for pensions and retirement pay amounted to 258.8 billion zlotys (an increase of 45.3 percent in relation to the similar period in 1981). The mean retirement benefit and pension in November 1982, including compensatory adjustments amounted to 5,852 zlotys, and was up 2,138 zlotys, or 57.6 percent from the figure in November 1981. On the other hand, the mean retirement benefit (pension) paid out of the FER [Farmers Retirement Fund] amounted to 4,420 zlotys, including compensatory adjustments, and was 1,794 zlotys, or 68.3 percent, higher.

In the period from 1 August 1981 to 30 November 1982 there was a review of 604,800 applications, and 526,800 early retirements were awarded. Some 7,500 applications remained for review.

Allowances. Allowance benefits for the period from January to November 1982 amounted to 100 billion zlotys, up 35.4 billion zlotys (54.9 percent) from the same period in 1981. The structure of payments was as follows: sick pay -- 45 billion zlotys, custodial benefits -- 5.1 billion zlotys, maternity benefits -- 8.2 billion zlotys, child-care benefits -- 18.2 billion zlotys, family benefits -- 21 billion zlotys, and other benefits -- 2.5 billion zlotys.

Subsistence benefits. In November 1982, 95,600 persons received benefits. The mean benefit amounted to 783 zlotys per person, up 58 zlotys, or 8 percent, from November 1981.

In the period from January to November a total of 853.9 million zlotys was paid out for this. This amount is 80.8 million zlotys more than during a similar period in 1981.

Employment Forecast for 1983

Warsaw TRYBUNA LUDU in Polish 8 Feb 83 p 3

[Article: 'College Graduates -- Employment Forecast for 1983"]

[Text] As of 1 January of this year a law on the employment of graduates went into effect. It provides a new system for employing graduates of just about all sorts of schools.

The operation of the economic reform makes steering by directives impossible, at least in the production sphere, concerning the placement of graduates. In this connection other mechanisms must be used to shape proper employment. The basis of action is the forecast of the labor market situation for the next few years. For example, it is projected that in 1983-1985 131,500 persons will graduate from daytime studies, and there will be a decline in 1985 to 41,900 graduates (this is 8,700 less than in 1982).

During this time there should be a decline in the number of graduates from universities, teachers' colleges, and technical colleges, because there will be smaller classes each year studying.

The Ministry of Labor, Wages, and Social Affairs projects that the national economy's demand for college graduates in 1982-1985 will reach a level of 156,000, which is 25,500 more than the schools will graduate, but this difference will create very great teacher shortages in educational institutions at all levels. As a result, for graduates in fields other than teaching, there may be a shortage of 14,500 job openings.

Who Will Encounter Problems?

The largest number of job-seekers will be found among university graduates majoring in fields other than teaching. Engineers too will run into difficulties, especially those graduating in architecture, construction, and environmental engineering.

Job hunting may also be difficult for graduates of agricultural academies educated for the needs of socialized agriculture, but major personnel searches will be conducted by the agricultural service and other facilities working on behalf of agriculture, those located in rural areas and small towns. We can also count on an increased flow of agriculture graduates to private peasant farms.

We foresee no major problem with the employment of graduates of academies of economics. There will also be a rise in the demand for physicians and dentists, but graduates in pharmacy, nursing, and medical analysis

may have problems finding a job to fit their aspirations (for example, assuming an operational position).

There will still be a shortage of teachers, but mainly outside academic centers.

Easing the Problems

Difficulties in employment should be eased as the result of using the new employment system. Possibilities will be created for graduates to find jobs on their own, on private farms, in handicrafts and trades, in commerce, in transport, in services, and in catering. Provisions have been made for additional incentives for all those who take jobs in small towns and in rural areas. There are possibilities that graduate labor cooperatives and the like will be set up.

If college graduates' difficulties in finding employment increase, there is the possibility of using the Vocational Activation Fund to underwrite the creation of new jobs.

Overall, however, there should be a job assured for everyone graduating, even if it does not always fit the specialty in which the person majored.

Changes in Employment Structure

Warsaw ZYCIE WARSZAWY in Polish 7 Feb 83 pp 1,2

[Article: "Changes in Employment Structure -- 55,000 Persons Left the Administration Last Year; Becoming a Craftsman No Easy Task; Regulations Must Be Updated"]

[Text] (From our own sources). Out of the 55,000 persons who left jobs in administration last year (largely because of industrial associations which were eliminated), 44,000 (about 80 percent) found employment in other units of the socialized econ omy, and only about 9,000 persons (16.5 percent) availed themselves of Council of Ministers Resolution No 169 and declared their desire to get a job on their own in services or the crafts and trades.

Owing to the difficulty in finding space, machinery, and raw materials, actually the number of people who went to work in the crafts and trades is far smaller. After initial failure, part of them went back to work in the socialized economy.

Possibilities of getting the qualifications for a shift in occupation and to acquire a new one are also not being utilized to any great extent. Last year, for example, the compensatory benefit to which people are entitled during the initial period after a change of occupation at earnings levels below the previous one was paid to 14,000 persons.

One of the factors showing the shifting of employees and the improvement of the employment structure on any major scale is the fact that plants are burdened with the obligation of paying 6 months severance pay for people giving up jobs in the socialized economy. Because many plants do not want to tie up their funds, they do not give up the employees they do not need. Hence, it would seem useful to have this severance pay refunded out of the Vocational Activation Fund.

Resolution No 169 narrows the ranks of those entitled to the benefits provided for in it to those employees let go because the place of employment was eliminated or the jobs were done away with or because employment in a given vocational group was cut back. These criteria, for example, do not fit many farmer-workers with farms of some size who could busy themselves with stepping up farm production if only conditions were created to encourage them to do so.

Up to the present time, 55 percent of the shifts (about 30,000 persons) have taken place in the six voivodships in which association headquarters were located. The largest number was in the capital city of Warsaw Voivodship, with 12,800. There were also 4,100 in Lodz Voivodship, 3,800 in Katowice Voivodship, 3,400 in Wroclaw Voivodship, and 3,700 in Gdansk Voivodship. In the other voivodships the number of persons let go from administration was far smaller, not exceeding 1,000 altogether.

In order to accelerate shifts this year and to achieve improvement in the structure of employment, there are plans to update the regulations of Resolution No 169, so that they could be used not only by employees of enterprises to be eliminated (we are talking mainly here about farmer-laborers with their own farms).

An improved employment structure will also be furthered by other economic instructions, such as a departure from encumbering any increase in mean remuneration on behalf of the Vocational Activation Fund. Therefore it will be profitable for the enterprises to employ fewer people who are more profitable.

This year there are plans to reduce employment in the socialized economy by 80,000 persons, but to increase employment in the crafts and trades and in contract (piece) work and services by about 40,000 and in private farming by about 20,000.

Changes in Management Personnel

Kielce SLOWO LUDU in Polish 27 Jan 83 pp 1, 6

[Interview with Prof Zygmunt Rybicki, by Ludwik Arendt: "Administration -- Direction for the Improvement of Work"]

[Text] The PAP reporter asked Prof Zygmunt Rybicki, undersecretary of state at the URM the following question:

[Question] What sort of changes in terms of quality and quantity did the year 1982 bring in management personnel of the state administration?

[Answer] Last year there was somewhat of a decline in the force of personnel changes. During the latter half of 1982 in particular there was some stabilizing of the situation. Out of the total number of about 200 positions of ministers, undersecretaries of state, directors of central offices, their deputies, and general directors, 29 changes were made. On the other hand, at lower levels important changes in personnel continued to be made, and, in my opinion, this often proved harmful to administration, because the people who left were those looking for a better job.

Last year we created the foundation in systems to put the structure in the central administration in order and to develop management personnel. In 1982 it was stated unequivocally that the task of the administrative machinery is service to society and openness to it. I would like to point out, for example, that in the years between the World Wars the highly qualified state machinery in Poland was to a great extent an elite body divorced from the rank and file of the society. This phenomenon can be observed today in certain countries, in Great Britain, for example.

In the notion of the concept adopted in our country, the administrative machinery should combine the great prestige stemming from high-level professional skill and appropriate moral level with the simultaneous turning toward the whole society which it serves. This means turning this machinery over to the leadership and supervision of representative bodies. I have in mind the Sejm and the people's coincils. In this structure, important control and monitoring functions are handled by social organizations, which unite people around the idea of national understanding.

It is worth mentioning that in 1982 new legal foundations were set up for state functionaries employed in the ministries, central offices, and voivodship, city, and gmina [parish] offices. It is a question of what we call service pragmatics, which went into effect as of 1 January 1983, the inculcation of which should help improve professionalism in administration. But the lack of expertise is the source of bureaucracy. In 1982 also a system was created for the training and continuing education of personnel for administration.

[Question] Should we be entirely satisfied by what has been done in the area we have been discussing?

[Answer] Of course not. We still lack a cohesive monitoring system in administration. After all, control is an indispensable instrument of management. Let us remember that a decision on a given matter made by the premier or by the Council of Ministers is only the point of departure on the road to the goal. Then this point of departure takes on social weight and significance, when the solution of the "top" is implemented at the basic centers of power, in the gmina or town. Therefore it is a question of monitoring the flow of decisions through the successive echelons

of the administrative machinery and assurance of implementation. Control in administration is more than merely trying to find the answer to the question, for example, of how a gmina chief is carrying out this stand or that. It is also efforts in the opposite direction, consisting of seeing whether a Council of Ministers solution "fits" the realities of the gmina. Hence, it means seeing whether the preparation of the decision included the government's taking into consideration all the life realities which we can be concerned with and, in other words, whether the given decision can be carried out. Such monitoring then assesses the extent to which instruments were properly selected and applied in management and administration.

[Question] Is such monitoring and control possible at all?

[Answer] It has to be, because otherwise, how is effective government possible? But this is obviously a difficult matter. I think that we still have some inadequacies in the "permeable" layers of information flow in both directions. First of all I would mention the echelon of the departments in the ministries, where certain matters get held up and even perhaps a little distorted. Similarly, departments of voivodship offices are not yet adequately a creative partner in the changes for which we are striving.

[Question] What should be done?

[Answer] Many things. We shall still handle seriously the functioning of the state administrative machinery. We have become convinced that the instruments through which the authorities operate are important. It sounds like a paradox, but we have finally become a craftsman who is starting to be concerned about the tools in his workshop. Concern to see that there is proper mastery of the governing instruments is a condition first of all to improvement in the area which we are discussing.

We must also master modern organization of work in the administration. To be concise, it should run like the production conveyor belt in a factory does, the one on which the finished product takes shape, but for this first of all we seed the civil service clerk to be competent and sympathetic towards the person who comes in for help, to have a sincere desire to take care of the matter, to possess the above-mentioned skill and of course appropriate competence and jurisdiction. It becomes essential to monitor the functioning of all the basic points through which the citizen must pass in a given administrative unit. We must group together the competence and jurisdiction of civil service clerks and bureaucrats in such a way that the citizen can quickly get his matter settled. The citizen gets things running. The conveyor belt in the office should carry it by itself, without the participation of the citizen. And one more thing. We must teach the clerks and bureaucrats to say "No," if the matter cannot be handled, to speak with an understanding of the matter, with a high level of culture, to look the person in the eyes and give reasons for his position. One must not run away from this, fall back on objective factors, "the people upstairs," and so on.

[Question] But we often also relate the activity of the administration with, for example, an elevator that is out of order. When the postal service or the railroad does not work right, we blame the authorities. What is the situation?

[Answer] Unfortunately, we are very much attached to what I call "arguments for holidays." To these we include the construction of "Belchatow" and the expansion of the royal palace, but after all holidays come only once in a while. On the ordinary days, there are the postal service, the railroad, and the service center. This is not the administration, but it is after all a question of that administration's setting things up to run well. The administration is responsible for this. It does not set things up so that you have to buy forms, envelopes, paper, and stamps at separate windows in the post office. And the elevator you mentioned... I think that we can treat that example symbolically. Of course, the citizen need not be involved in knowing all the factors that must be fulfilled for it to work. It is the administration's job to work out and set up a system to insure that it works right, and those people responsible for its proper operation should be monitored and brought to answer for it. And this with competence and consistency.

Job Vacancies, Unemployment

Bydgoszcz GAZETA POMORSKA in Polish 19 Jan 83 pp 1,2

[Article: "Nearly 250,000 Jobs Available"]

[Text] According to the Ministry of Labor, Wages, and Social Affairs, at the end of December the employment and social affairs departments had nearly 248,000 available jobs on record. This is 10 percent fewer than in November of last year. In December, owing to the increase in employment, employers listed only about 23,000 openings. The other positions were for jobs which remained previously unfilled. In December there were more than 225,000 of these.

The departments of employment and social affairs during the last month of the year issued more than 118,000 referrals for jobs. In November the number of these job referrals ran at about 170,000. It is the ministry's opinion that a substantial share, 30 percent, of the decline in the number of referrals is the result of the fact that individual plants are holding up the hiring of new employees for the period preceding the elaboration of their technical-economic plans for the coming year. We have also come to the end of the reriod of hiring people for seasonal work, for example, in the sugar refineries, tobacco plants, and municipal economy. It is worth emphasizing that most of the job referrals concerned blue-collar work, more than 83 percent, including nearly 40 percent skilled workers.

The next trend on the labor market is the decline in the number of persons registered to look for a job. At the end of last year, more than 9,000 persons were registered, or about 15 percent fewer than in November.

Therefore the number of registered job-seekers has declined over the past 2 years. At the same time, 600 benefit payments were made in December to people who had some difficulty in obtaining an appropriate job.

As research shows, plants are looking for employees with education ranging from a grammar-school diploma to a college degree. The remuneration being offered runs from 5,400 zlotys to 18,000 zlotys, but most of the jobs being offered are directly related to production. Last December no voivodship showed an overall shortage of available job openings.

Polish Workers Abroad

Krakow DZIENNIK POLSKI in Polish 3 Jan 83 p 4

[Article: One Hundred Thousand Poles Working Abroad"]

[Text] Warsaw. PAP. 31 December 1982 in the office of the Council of Ministers, Deputy Chairman of the Council of Ministers Zbigniew Madej chaired a meeting of the Commission on Economic and Scientific-Technical Cooperation Abroad. There was a discussion of problems related to the employment of Polish citizens abroad, the long-range prospects for the export of construction and installation services, and the principles for the employment of Polish citizens in other countries within the framework of individual contracts.

The number of Polish citizens working abroad through the intermediary of Polish institutions now approximates 100,000 persons. The largest group consists of people employed in the construction and installation services. Large groups are also at work in various enterprises in the GDR and Czechoslovakia. This is regulated by agreements between the corresponding institutions in Poland and other countries.

Estimates by the Ministry of Labor, Wages, and Social Affairs show that in 1983 the total number of Polish citizens employed abroad through the intermediary of Polish institutions will increase. This follows from the decline in the demand for construction and installation services and the overall difficulties on the labor markets of most countries.

10790 CSO: 2600/375

POLAND

SEJM COMMITTEE DEBATES ON ECONOMIC REFORM SUMMARIZED

Warsaw ZYCIE GOSPODARCZE in Polish No 23, 5 Jun 83 p 9

[Article by Marek Misiak: "In the Direction of Synthesis"]

[Text] It is not easy to summarize discussion by the deputy committees of various aspects of the economic reform. For this reason to prepare for this task, a series of separate meetings was arranged within the framework of an intercommittee task group specially formed for the purpose and the Economic Planning Committee for Budget and Finance. The first meeting of the intercommittee task group took place on 27 May 1983 and was chaired by deputy Alojsy Helich.

The discussion was of a preliminary nature. Not all the committees succeeded in formulating their positions. Therefore their representatives presented their own views or only tentative and not final positions of the committees. It is of value, however, to note the problems that were brought up most frequently in this preliminary discussion.

First, whether and when will the reform be able to be effected and should it be individualized in various agencies? Arguments for such individualization were presented by deputy Jan Kubit representing the Committee of Mining, Energy, and Chemical Industry. To what extent is it possible to give up universalism in favor of individualization of reform mechanisms? From the statements of the other deputies it developed that the basic problems of economic reform have a quite universal character.

The majority of the deputies therefore called attention to the lack of adequate motivational effect of wages on productivity and quality of work. Attention was also generally called to the weak relation between wage capabilities and economic results attained by enterprises. Progressive of tax systems and other burdens on FAZ weakened the interest of enterprises in improving economic results. It is too easy also for enterprises to achieve an improvement in wage capabilities not by decreasing costs and improving production quality, but by increasing prices.

The deputies also critically evaluated the effect of reform on innovation and technical progress. Deputy Lidia Jackiewicz-Kozanecka specifically proposed placing the whole fund for technical progress at the disposal of enterprises. (At present a part of this fund is centralized.)

The definite lack of means to support and stimulate technical progress and the small investments in this area were confirmed. Stronger incentives for inventiness are needed.

Other, more general problems were also considered. How far should independence of enterprises be extended? Do not associations and the ministry apparatus place too great a restraint on desired steps in this direction? Will not further extension of enterprise independence lead to improprieties, for example, too great a limitation on central control of economic processes? The majority of the deputies expressed the opinions of enterprises, indicating that there was a great tendency of associations and the ministry apparatus to use traditional control instruments. It is true that this does not have a formalized form that could be easily confirmed. But founding organs frequently wanted to make detailed inquiries into enterprise activities and enterprises are complaining of this.

Zdzisław Sadowski, undersecretary of URM Office of the Council of Ministers, who was present at this meeting, spoke to the statements of the deputies. In his opinion, the reform principles should be uniform for the whole economy, which obviously does not exclude individualization of the method of their realization. This individualization has been advanced quite far, as is evidenced in specific executive regulations. Prof Zdzisław Sadowski also touched on a number of other problems of the present stage of reform of the Polish economy: realizing a stronger effect of the reform on enterprise efficiency; correlation between limiting reform and the threat of inflation; the close association of motivational policy and social welfare, etc.

Deputy Alojzy Melich, chairman of the task group, speaking during the last part of the discussion, limited himself to the most general problems. There is no return to a system of regulations, but activation of instruments of indirect action on enterprises cannot be understood as an easy and conflict-free task. First of all the problems of wage scales must be taken into account. Prof A. Melich said specifically that increasing the parametric effect on enterprises will mean "hell" for more than one of them, and they must pass through it in order to bring about a real establishment of reform. Very strong egalitarian tendencies and a lack of psychological preparation of society for the hard rules of effective economic reform is actually—and here we can agree with deputy A. Melich—one of the most urgent problems of economic reform.

2950

cso: 2600/977

POLAND

STATUS OF WORKERS COUNCILS CONSIDERED BY SEJM COMMISSION

Warsaw ZYCIE GOSPODARCZE in Polish No 21, 22 May 83 p 3

[Article by Irena Dryll: "What Is the Condition of Self-Government?"]

[Text] It is difficult to answer the question in the title. Formally speaking, self-governing councils do exist: in approximately 6600 enterprises for which workers councils have been authorized, in most cases, although they have been newly organized, they are constituted as they were before. There are still about 600 plants and institutions in which the matter is in flux. There are councils that are going full steam ahead and those that are still crawling on all fours. One thing can be said without blurring the truth with "statistical optimism," is that reconstruction, or rather construction of workers' self-government is an unbelievably complex, continuing process.

Such would have been the general conclusion of the 10 May meeting of representatives of workers' councils and the Sejm presidium of the commission for workers' self-government in the enterprises that took place in the Sejm. In August, 1982, at the first meeting of this kind, the dominant problem was whether and how self-government will be established. At that time we were concerned that the idea of self-government should survive. At the May meeting, the basic question actually pertained to the form in which it will survive, the scope of its authority, and the practical answer to the question: how to operate in the present complicated sociopolitical and economic conditions. Neither representatives of the Sejm commission with their presiding deputy, Jozef Barecki, nor the plenipotentiary of the government for economic reform, Wladyslaw Baka, nor the discussants, leaders of workers councils, provided a formula. There is no "recipe for self-government"; there are various views and opinions in this matter, a plethora of question marks and specific questions.

One of the participators in the discussion, the president of the workers' council in the Pomet Metal Works in Poznan, who is the leader in that city of the consulting unit for self-government, made a picturesque comparison. He said that as president of the council, he feels like a hedgehog. He is circling this council in such a way as not to hurt it (or himself), and the same things go on. In his opinion, the directors, especially those of small enterprises, have not yet become accustomed to continuous, everyday cooperation with self-government.

"We prize highly the resolution on self-government for the workforce. We are disturbed, however, and probably justifiably so from the macro point of view, by all the activities that drastically blunt both reforms and the role of self-government of the workfoce in the realization of reforms, as well as the interpretations of the self-government resolution that vary depending on the situation." He said that "...Articles 7 and 5 of the 18 December 1982 resolution concerning specific legal regulation during the period when martial law is in force limited, let us hope temporarily, the authority of self-government in essential cases." The speaker noted that these limitations affect activity and quell the enthusiasm of the reactivated self-government organs.

So much about one of the three S's, self-government. With respect to the second S, self-reliance, in the opinion of the president of Jelcze, it is limited most of all by a distribution system that is even more rigorous than it was last year. The third S, self-financing, also has quite a few minuses from the point of view of the plants. A representative of self-government said that despite the favorable economic effects attained in the past year, what was left for the workforce was not in the least inspring. After paying taxes, profit to be divided in the enterprise amounted to scarcely 3.6 percent total profit, and less than I percent profit for the workforce. This representative said, "Such drastic fiscal encumbrance of the enterprise does not seem to be motivating." In the total costs and financial burdens of the enterprise, compensation of the workfoce (in various forms including nourishing food) amounts to scarcely II percent. In the opinion of the Jelcze self-government, these are not proper proportions.

This statement is not cited to express an opinion either for or against in this specific case, but because it is characteristic of a very essential economic trend in the work of self-government.

Discussion disclosed that at the present stage, self-governing bodies recognize the economic situation of their plants to some extent, and on this basis, they evaluate the specific solutions of the reform. There was mention specifically on the role of banks, which are not always partners since their control is too extensive; of associations that are, in the opinion of some discussants like J. Malarz in the Agromet enterprise in Strzelcy Opolskie, "a successive element undermining self-reliance of the enterprises"; of savings, for which there are no adequate incentives; of the tax system, specifically income tax, which, in the opinion of A. Stawinski from the Polfa enterprise in Starogard, is punishment peculiar to plants that manage well and yield a high return.

During the intermission two experts on the commission, Dr T. Jaworski and Dr B. Ziemianin, were confronted with questions. These pertained mainly to the following matters:

Will there be self-government in the associations, and what form will it take? Who has the right to determine the regulations of motivation systems in enterprises, only the administration with the trade unions or the self-governing bodies as well? Who can determine the ceiling for earnings of the administrator and his deputies: the founding organ exclusively or the workers council

as well? How can the right of evaluating the administrator, to which the whole body of workers is entitled, be applied in practice? Should the council form a special commission or simply develop its own opinion and present it to the meeting? Does the council have the right to express an opinion on the subject of awards for individual workers? What should be done if orders, generated either within the plant or from outside, are contrary to the letter or the spirit of resolutions pertaining to enterprises and self-government? As is evident from what the participants said at the meeting, this happens quite frequently unfortunately.

I will not cite the answers of the experts to specific questions and doubts expressed, since this paper systematically elucidates specific questions by publishing the opinions of Dr Ziemianin. Also, the statements of self-government representatives and their questions lead, it seems, to one conclusion: in practice it is very difficult for workers councils to establish what they are permitted to do under martial law and how coordination should operate in daily practice.

One of the participants of the meeting said, "To meet the requirements of the reform, 188 legal acts have been enacted, and the next 19 have been worked out. Are we in a position to deal with this?"

The authorizing of workers councils is another and (according to management) the most essential trend in the work of self-government at the present stage. Those workers councils are authentic that want to act, that seek—as I would say—authorization, and want to know what to do and how to do it. This is the source of the meaning written into the resolution concerning the "charge of the Sejm" over self-government and over the expertise of the Sejm commission, for which there is a great demand. Two commission experts working, nota bene, together, are not in a position to meet the avalanche of questions directed to the Sejm. There is hope that the central consulting unit which, on the initiative of the commission, is going to be organized soon, will take a definite shape.

In speaking of being empowered, I do not have in mind making council members into experts in the given sphere of work or the economy. The form of this self-governing competence will—I think—be developed in practice. The basis for each self-governing body will not be functionaries, but rather authentic civic leaders. This requires a special type of knowledge and orientation. In a place where the civic climate for self-government exists, people experienced in bureaucratic activity "will be the first to view for membership in the workers council," as Docent Zbigniew Sufin, a sociologist, wrote at one time (RZECZPOSPOLITA, No 182, 1982). "New functionaries of self-government will appear who will quickly find a common language with the administration functionaries, and after a few months the activity of the self-government will be very similar to the activity of other organizations." It seems that this danger does exist. The immediate future will be most significant in this respect.

As Bareck emphasized at the meeting, much will depend on how relations fall into place along the line:

self-government--the organizing body--the administration;

self-government--the association; self-government--trade unions.

Conflict and clashes of positions were built into the reform and the new quality of enterprises, he said. Both key reform resolutions on self-government and the enterprise introduce a form of mediation and resolution of disagreements by the court. Therefore we must learn to resolve disagreements and conflicts. The president of the Sejm assured us that advice and help will be forthcoming from the Sejm commission. He also expressed the hope that self-government will soon become so strong that help will no longer be required.

Prof Baka once again assured us that the government in will and in act—as he said—fully approves of the activity of workers councils. And referring to the statement of J. Kaleta, he said that he would like to share his opinion that easing the limitations pertaining to self-government contained in Articles 7 and 5 of the 18 December resolution will increase enthusiasm for self-government. From his statement it seems that the present stage of the work of self-government is already more laborious and arduous and less effective, and does not stimulate the emotions, and therefore may evoke varying degrees of enthusiasm.

The opinion of W. Baka is that a good director is and will be required for good self-government. A director who interdicts self-government is bad, and equally bad is self-government that walks step by step behind the director. It is difficult not to share this opinion.

From the statements coming from both those presiding at and those attending the meeting, there appeared a third trend in self-governing activity at its present stage: recognizing its own identity. Among the leaders (or deputies) representing workers councils of 320 enterprises, however, only 9 spoke and 26 registered. Somewhat long in proportion to the duration of the meeting. and weighty on the whole, but otherwise interesting, were the two statements of the plenipotentiary for reform. It is easier for me to talk about the official version of the identity of self-government than to give the opinion on this subject of those who will shape it. There is the hope, however, that there will be a series of meetings in the Sejm, and there the representatives of the councils will be as active in statements from the stand as they were with questions and reflections in the corridors, which I heard during the intermission. In addition to the observations made above, I would like to conclude with the opinion of Prof Ludwik Bar, who attended the meeting and described it as constructive, emphasizing especially the fact that, judging by the discussion, self-government has a very deep effect on the management of a plant. Prof Bar reminded us that the resoultion on self-government was placed into the hands of the workforce and a deciding factor on its worth will be the workers councils that exist already and those that will be formed.

We might add that councils and their everyday activity will decide the condition of self-government.

2950

CSO: 2600/898

SPECIAL CURRENCY EXCHANGE RATE TABLES PUBLISHED

Exchange Rate Table No 19

Warsaw TRYBUNA LUDU in Polish 9 May 83 p 7

[Text] Announcement of Exchange Rates Table No 19/83, effective 9 May 1983, by Stanislaw Majewski, president, Polish National Bank, on 9 May 1983.

 Foreign-currency exchange rates in zlotys for countries of the first payments area [socialist countries] for commercial and noncommercial payments remain unchanged.

In purchases of travelers' checks for rubles, issued by the USSR Foreign Trade Bank and payable outside the USSR in the currency of the country where cashed, an exchange rate of 11,939.47 zlotys per 100 rubles is applied.

II. Foreign-Currency Exchange Rates in Zlotys for Countries of the Second Payments Area [Capitalist Countries].

Exchange Rates Table 19/83

				Foreign exchange		Money			
Country	Curr		Currency	Pur- chase	Sales 5	Pur- chase	Sales 2	Aver- age	
Saudi Arabia	771	1	rial1)	25.03	25.29			25.16	
Australia	781	1	Aust. dollar	75.01	75.77	73.88	76.90	75.39	
Austria	786	100	schillings	499.67	504.69	492.14	512.22	502.18	
Belgium	791	100	francs	176.47	178.25	173.81	180.91	177.36	
Denmark	792	1	kroner	9.90	10.00	9.75	10.15	9.95	
Finland	780	1	markka	15.92	16.08	15.68	16.32	16.00	
France	793	1	franc	11.69	11.81	11.51	11.99	11.75	
Greece	724	100	drachmas	103.12	104.16	89.38	105.71	103.64	
Spain	785	100	pesetas	63.18	63.82	62.23	64.77	63.50	
Holland	794	1	florin	31.27	31.59	30.80	32.06	31.43	
India	543	100	rupees1)	867.15	875.87		-	871.51	
Ireland	782	1	pound	111.07	112.19	-	-	111.63	
Japan	784	100	yen	36.39	36.75	35.84	37.30	36.57	

Yugoslavia	718	100	dinars	102.45	103.47	88.79	105.02	102.96
Canada	788	1		70.51	71.21	69.44	72.28	70.86
Kuwait	770	1	dinar1)	296.34	299.32			297.83
Lebanon	752	1		20.75	20.95	20.43	21.27	20.85
Libya	651	-	dinar1)	292,62	295.56			294.09
Luxembourg	790		francs	176.47	178.25	173.81	180.91	177.36
Norway	796	1		12.19	12.31	12.00	12.50	12.25
Portugal	779	100	escudos	87.68	88.56	76.00	89.88	88.12
FRG	795	•		35.15	35.51	34.62	36.04	35.33
United States	787	1	11	86.37	87.23	85.06	88.54	86.80
Switzerland	797	1	franc	41.82	42.24	41.19	42.87	42.03
Sweden	798	1		11.55	11.67	11.38	11.84	11.61
Turkey	627	_	pounds,	35.12	35.48	30.44	36.01	35.30
Great Britain	789	1		136.18	137.54	134.12	139.60	136.86
Italy	799		lira	5.91	5.97	5.12	6.06	5.94
Iran	646		rial1)	101.91	102.93	100.37	104.47	102.42

Exchange Rate Table No 20

Warsaw TRYBUNA LUDU in Polish 16 May 83 p 4

[Text] Announcement of Exchange Rates Table No 20/83, effective 16 May 1983, by Leszek Urbanowicz, for the president of the Polish National Bank, on 16 May 1983.

I. Foreign-currency exchange rates in zlotys for countries of the first payments area [socialist countries] for commercial and noncommercial payments remain unchanged.

In purchases of travelers' checks for rubles, issued by the USSR Foreign Trade Bank and payable outside the USSR in the currency of the country where cashed, an exchange rate of 11,899.45 zlotys per 100 rubles is applied.

II. Foreign-Currency Exchange Rates in Zlotys for Countries of the Second Payments Area [Capitalist Countries].

[Table on following page]

Exchange Rates Table No 20/83

					eign	24		
				Pur-	nange	Pur-	ey	Aver-
Country	Curr symb Currency			Sales 5	chase 1	Sales 2	age 6	
Saudi Arabia	771		rial1)	24.94	25.20			25.07
Australia	781		Aust. dolla		75.97	74.08	77.10	75.59
Austria	786	100		502.92	507.98	495.34	515.56	504.45
Belgium	791	100			178.85	174.40	181.52	177.96
Denmark	792	1	kroner	9.93	10.03	9.78	10.18	9.98
Finland	780		markka	15.93	16.09	15.69	16.33	16.01
France	793	1	franc	11.73		11.55	12.03	11.79
Greece	724	100	drachmas	102.77	103.81	89.07	105.36	103.29
Spain	785	100		62.39	63.63	62.04	64.58	63.31
Holland	794	1	florin ₁₎	31.45	31.77	30.98	32.24	31.61
India	543	100	rupees	863.33	872.01	-		867.67
Ireland	782	1	pound1)	111.64	112.76			112.20
Japan	784	100		37.08	37.46	36.52	38.02	37.27
Yugoslavia	718	100	dinars	97.26	98.24	84.30	99.71	97.75
Canada	788	1	Can. dollar	70.23	70.93	69.17	71.99	70.58
Kuwait	770	1	dinar1)	296.40	299.38			297.89
Lebanon	752	1	pound ₁₎	20.73	20.93	20.41	21.25	20.83
Libya	651	1	dinar 1)	291.62	294.56	-		293.09
Luxembourg	790	100	francs	177.07	178.85	174.40	181.52	177.96
Norway	796	1	kroner	12.19		12.00	12.50	12.25
Portugal	779	100		88.01		76.28	90.22	88.45
FRG	795	1	mark	35.40		34.87	36.29	35.58
United States	787	1	dollar 3)	86.08		84.78	88.24	86.51
Switzerland	797	1	franc	42.29	42.71	41.65	43.35	42.50
Sweden	798	ī	kroner	11.53	11.65	11.36	11.82	11.59
Turkey	627	100	pounds	32.98	33.32	28.59	33.81	33.15
Great Britain	789	1		134.96	136.32	132.93	138.35	135.64
Italy	799	100	lira	5.94	6.00	5.15	6.09	5.97
Iran	646	100	4.3	101.56		100.03	104.11	102.07
v r arr	040	100	1141	101.30	104.30	100.03	104.11	102.07

Exchange Rate Table No 21

Warsaw TRYBUNA LUDU in Polish 23 May 83 p 4

[Text] Announcement of Exchange Rates Table No 21/83, effective 23 May 1983, by Zeszek Urbanowicz, for the president of the Polish National Bank, on 23 May 1983.

I. Foreign-currency exchange rates in zlotys for countries of the first payments area [socialist countries] for commercial and noncommercial payments remain unchanged.

In purchases of travelers' checks for rubles, issued by the USSR Foreign Trade Bank and payable outside the USSR in the currency of the country where cashed, an exchange rate of 12,026.28 zlotys per 100 rubles is applied.

II. Foreign-Currency Exchange Rates in Zlotys for Countries of the Second Payments Area [Capitalist Countries].

Exchange Rates Table No 21/83

				Fore	ign ange	Mor	ney	
				Pur-		Pur-		Aver-
	Curr			chase	Sales	chase	Sales	age
Country	symb	C	urrency	4	5	1	2	6
Saudi Arabia	771	1	rial17	25.08	25.34			25.21
Australia	781	1	Aust.dollar	76.30	77.06	75.15	78.21	76.68
Austria	786	100	schillings	498.34	503.24	490.82	510.86	500.84
Belgium	791	100		175.70	177.46	173.05	180.11	176.58
Denmark	792	1	kroner	9.85	9.95	9.70	10.10	9.90
Finland	780	1	markka	15.93	16.09	15.69	16.33	16.01
France	793	1	franc	11.67	11.79	11.50	11.96	11.73
Greece	724	100	drachmas	103.36	104.40	89.58	105.96	103.88
Spain	785	100	pesetas	62.60	63.22	61.65	64.17	62.91
Holland	794	1	florin	31.17	31.49	30.70	31.96	31.33
India	543	100	rupees 1)	866.85	875.57			871.21
Ireland	782	1	pound1)	110.65	111.77			111.21
Japan	784	100	yen	36.98	37.36	36.43	37.91	37.17
Yugoslavia	718		dinars	97.92	98.90	84.87	100.38	98.41
Canada	788	1	Can. dollar	70.41	71.11	69.34	72.18	70.76
Kuwait	770	1	dinar1)	297.65	300.65			299.15
Lebanon	752	1	pound .	20.39	20.59	20.08	20.90	20.49
Libya	651	1	dinar1)	292.29	295.23			293.76
Luxembourg	790	100	francs	175.70	177.46	173.05	180.11	176.58
Norway	796	1	kroner	12.15	12.27	11.97	12.45	12.21
Portugal	779	100	escudos	87.83	88.71	76.12	90.04	88.27
FRG	795	1	mark	35.06	35.42	34.54	35.94	35.24
United States	787	1	dollar3)	86.52	87.38	85.21	88.69	86.95
Switzerland	797	1	franc	42.21	42.63	41.57	43.28	42.42
Sweden	798	1	kroner	11.54	11.66	11.37	11.83	11.60
Turkey	627		pounds.	33.76	34.10	29.26	34.61	33.93
Gr. Britain	789	1	pound ²⁾	134.37	135.73	132.35	137.75	135.05
Italy	799		lira	5.89	5.95	5.10	6.04	5.92
Iran	646	100	rial1)	101.63	102.65	100.10	104.18	102.14

Exchange Rate Table No 22

Warsaw TRYBUNA LUDU in Polish 30 May 83 p 4

[Text] Announcement of Exchange Rates Table No 22/83, effective 1 June 1983, by Stanislaw Majewski, president of the Polish National Bank, on 1 June 1983.

I. Foreign-currency exchange rates in zlotys for countries of the first payments area [socialist countries] for commercial and noncommercial payments remain unchanged.

In purchases of travelers' checks for rubles, issued by the USSR Foreign Trade Bank and payable outside the USSR in the currency of the country where cashed, an exchange rate of 12,058.09 zlotys per 100 rubles is applied.

II. Foreign-Currency Exchange Rates in Zlotys for Countries of the Second Payments Area [Capitalist Countries].

Exchange Rates Table No 22/83

				Fore				
					ange	Mone	<u>y</u>	
				Pur-		Pur-		Aver-
	Curr			chase	Sales	chase	Sales	age
Country	symb		Currency	4	_ 5	1	_ 2	6
Saudi Arabia	771		rial ¹	25.14	25.40			25.27
Australia	781	1	Aust. dollar	76.49	77.25	75.33	78.41	76.87
Austria	786	100	0	495.69	500.67	488.22	508.14	498.18
Belgium	791	100	francs	174.68	176.44	172.05	179.07	175.56
Denmark	792	1	kroner	9.77	9.87	9.62	10.02	9.82
Finland	780	1	markka	15.89	16.05	15.65	16.29	15.97
France	793	1	franc	11.61	11.73	11.44	11.90	11.67
Greece	724	100	drachmas	103.58	104.62	89.78	106.18	104.10
Spain	785	100	pesetas	62.53	63.15	61.58	64.10	62.84
Holland	794	1	florin	31.05	31.37	30.59	31.83	31.21
India	543	100	rupees1	869.18	877.92			873.55
Ireland	782	1	pound1	110.17	111.27			110.72
Japan	784	100	yen	36.81	37.19	36.26	37.74	37.00
Yugoslavia	718	100	dinars	96.68	97.66	83.80	99.11	97.17
Canada	788	1	Can. dollar	70.28	70.98	69.22	72.04	70.63
Kuwait	770	1	dinarl	297.68	300.68			299.18
Lebanon	752	1	pound,	20.89	21.11	20.58	21.42	21.00
Libya	651	1	dinar	298.89	301.89			300.39
Luxembourg	790	100	francs	174.68	176.44	172.05	179.07	175.56
Norway	796	1	kroner	12.15	12.27	11.97	12.45	12.21
Portugal	779	100	escudos	87.18	88.06	75.57	89.37	87.62
FRG	795	1	mark a	34.86	35.22	34.34	35.74	35.04
United States	787	1	dollar3	86.74	87.62	85.44	88.92	87.
Switzerland	797	1	franc	41.67	42.09	41.04	42.72	41.88
Sweden	798	1	kroner	11.55	11.67	11.38	11.84	11.61
Turkey	627	100	pounds	36.68	37.04	31.79	37.60	36.86
Gr. Britain	789	1	pound ²	136.28	137.64	134.22	139.70	136.96
Italy	799	100	lira,	5.87	5.93	5.09	6.02	5.90
Iran	646	100		102.60	103.64	101.06	105.18	103.12

Exchange Rate Table No 23

Warsaw TRYBUNA LUDU in Polish 6 Jun 83 p 5

[Text] Announcement of Exchange Rates Table No 23/83, effective 6 June 1983, by Leszek Urbanowicz, for the president of the Polish National Bank, on 6 June 1983.

In purchases of travelers' checks for rubles, issued by the USSR Foreign Trade Bank and payable outside the USSR in the currency of the country where cashed, an exchange rate of 11,965.80 zlotys per 100 rubles is applied.

I. Foreign-Currency Exchange Rates in Zlotys for Countries of the First Payments Area [Socialist Countries]

Exchange Rate Table No 23/83

Exchange Rate for Commercial Payments

	Curr				Fore	ign exchange	2
Country	symb	_	Currency	y	Purchase	Sale	Average
CEMA countries	101	1	transfer	ruble	67.66	68.34	68.00
Albania	315	1	clearing	ruble	67.66	68.34	68.00
Kampuchea	317	1	clearing	ruble	67.66	68.34	68.00
People's Repub-			_				
lic of Korea	319	1	clearing	ruble	67.66	68.34	68.00
Laos	322	1	clearing	ruble	67.66	68.34	68.00
Vietnam	320	1	clearing	ruble	67.66	68.34	68.00

Exchange Rate for Noncommercial Payments

	Curr	irr		Foreign exchange					
Country	symb		Currency	Purchase	Sale	Average			
Albania	215	100	1ek	513.42	518.58	516.00			
Bulgaria	202	100	leva	4,884.54	4,933.64	4,909.09			
Czechoslovakia	203	100	koruna	429.84	434.16	432.00			
People's Repub-									
lic of Korea	219	100	won	1,492.50	1,507.50	1,500.00			
Cuba	208	100	peso	3,872.43	3,911.35	3,891.89			
People's Repub-									
lic of Mongolia	204	100	tugriks	1,028.32	1,038.66	1.033.49			
German Demo-									
cratic Republic	205	100	marks	1,343.25	1,356.75	1,350.00			
Romania	206	100	lei	517.88	523.08	520.48			
Hungary	207	100	forints	291.42	294.34	292.88			
Vietnam	210	100	dong	450.10	454.62	452.36			
USSR	201		rubles	4,298.40	4.341.60	4,320.00			

II. Foreign Currency Exchange Rates in Zlotys for Countries of the Second Payments Area [Capitalist Countries].

					eign	Mon	ev	
				Pur-	- I	Pur-		Aver-
	Curr			chase	Sales	chase	Sales	age
Country	symb		Currency	4	5	1	2	6
Saudi Arabia	771	1	rial ¹	25.22	25.48	-		25.35
Australia	781	1	Aust. dollar	76.73	77.51	75.58	78.66	77.12
Austria	786	100	schillings	490.54	495.48	483.15	502.87	493.01
Belgium	791	100	francs	173.13	174.87	170.52	177.48	174.00
Denmark	792	1	kroner	9.66	9.76	9.52	9.90	9.71
Finland	780	1	markka	15.90	16.06	15.66	16.30	15.98
France	793	1	franc	11.51	11.63	11.34	11.80	11.57
Greece	724	100	drachmas	103.61	104.65	89.80	106.21	104.13
Spain	785	100	pesetas	62.19	62.81	61.25	63.75	62.50
Holland	794	1	•	30.75	31.05	30.28	31.52	30.90
India	543	100		873.84	882.62	-		878.23
Ireland	782	1		109.01	110.11	-		109.56
Japan	784	100		36.47	36.83	35.92	37.38	36.65
Yugoslavia	718		dinars	94.44	95.38	81.85	96.81	94.91
Canada	788	1	Canad, dollar	70.72	71.44	69.66	72.50	71.08
Kuwait	770	1	1	298.06	301.06	-		299.56
Lebanon	752	1	pound,	20.96	21.18	20.65	21.49	21.07
Libya	651	1		294.11	297.07	-	-	295.59
Luxembourg	790	100		173.13	174.87	170.52	177.48	174.00
Norway	796	1	kroner	12.18	12.30	12.00	12.48	12.24
Portugal	779	100	escudos	87.25	88.13	75.63	89.44	87.69
FRG	795	1	mark 3	34.55	34.89	34.03	35.41	34.72
United States	787	1		87.03	87.91	85.72	89.22	87.47
Switzerland	797	1		41.60	42.02	40.97	42.65	41.81
Sweden	798	1		11.56	21.68	11.39	11.85	11.62
Turkey	627	100	pounds	36.62	36.98	31.73	37.54	36.80
Great Britain	789		pound ²	139.69	141.09	137.58	143.20	140.39
Italy	799		lira,	5.82	5.88	5.04	5.97	5.85
Iran	646		rial	102.90	103.94	101.35	900 10	103.42

Exchange Rate Table No 24

Warsaw TRYBUNA LUDU in Polish 13 Jun 83 p 7

[Text] Announcement of Exchange Rates Table No 24/83, effective 13 June 1983, by Stanislaw Majewski, president of the Polish National Bank, on 13 June 1983.

 Foreign-currency exchange rates in zlotys for countries of the first payments area [socialist countries] for commercial and noncommercial payments remain unchanged.

In purchases of travelers' checks for rubles, issued by the USSR Foreign Trade Bank and payable outside the USSR in the currency of the country where cashed, an exchange rate of 12,067.88 zlotys per 100 rubles is applied.

II. Foreign-Currency Exchange Rates in Zlotys for Countries of the Second Payments Area [Capitalist Countries].

Exchange Rates Table No 24/83

				Fore	ign sange	Mone	ry	
				Pur-		Pur-		Aver-
0.00	Curr	-		chase	Sales	chase	Sales	age
Country	symb	C	urrency	4	5	1	_ 2	6
Saudi Arabia	771	1	rial	25.40	25.66	-		25.53
Australia	781	1	Aust.dollar	77.05	77.83	75.89	78.99	77.44
Austria	786	100	schillings	486.04	490.92	478.71	498.25	488.48
Belgium	791	100	francs	171.22	172.94	168.64	175.52	172.08
Denmark	792	1	kroner	9.56	9.66	9.42	9.80	9.61
Finland	790	1	markka	15.82	15.98	15.58	16.22	15.90
France	793	1	franc	11.37	11.49	11.20	11.66	11.43
Greece	724	100	drachnas	104.20	105.24	90.11	106.81	104.72
Spain	785	100	pesetas	61.55	62.17	60.62	63.10	61.86
Bolland	794	1	florin,	30.50	30.80	30.04	31.26	30.65
India	543	100	rupees	878.08	886.90		-	882.49
Ireland	782	1	pound1	108.01	109.09	-		108.55
Japan	784	100		36.52	36.88	35.97	37.43	36.70
Yugoslavia	718	100		91.99	92.80	79.63	94.19	82.34
Canada	788	1	Canad, dolla	r 71.00	71.72	69.93	72.79	71.36
Kuwait	770	1	dinar	299.75	302.77		-	301.26
Lebanon	752	1	pound	21,11	21.33	20.80	21.64	21.22
Libya	651	1	dinarl	296.13	299.11		-	297.62
Luxenbourg	790	100	francs	171.22	172.94	168.64	175.52	172.08
Norway	796	1	kroner	12.12	12.24	11.94	12.42	12.18
Portugal	779	100	escudos	86.76	87.64	75.20	88.94	87.20
FRG	795	1	mark .	34,22	34.56	33.70	35.08	34.39
United States	787	1	dollar	87.63	88.51	86.31	89.83	88.07
Switzerland	797	1	franc	41.38	41.80	40.76	42.42	41.59
Sweden	798	1	kroner	11.49	11.61	11.32	11.78	11.55
Turkey	627	100	pounda	36.01	36.37	31.21	36.91	36.19
Gr. Britain	789	1	pound ²	137.50	138.88	135.43	140.95	138.19
Italy	799	100	lira	5.77	5.83	5.00	5.92	5.80
Iran	646	100	riall	103.61	104.65	102.05	106.21	104.13

Exchange Rate Table No 25

Warsaw TRYBUNA LUDU in Polish 20 Jun 83 p 4

[Text] Announcement of Exchange Rates Table No 25/83, effective 20 June 1983, by Stanislaw Majewski, president of the Polish National Bank, on 20 June 1983.

1. Foreign-currency exchange rates in zlotys for countries of the first payments area [socialist countries] for commercial and noncommercial payments remain unchanged.

In purchases of travelers' checks for rubles, issued by the USSR Foreign Trade Bank and payable outside the USSR in the currency of the country where cashed, an exchange rate of 11,904.05 zlotys per 100 rubles is applied.

II. Foreign-Currency Exchange Rates in Zlotys for Countries of the Second Payments Area [Capitalist Countries].

Exchange Rates Table No 25/83

				Fores		Mon	ney	
Country	Curr		Currency	Pur- chase	Sales 5	Pur- chase	Sales 2	Aver- age 6
Saudi Arabia	771	1	rial1	25.41	25.61		-	25.54
Australia	781		Aust. dollar	76.78	77.56	75.63	78.71	77.17
Austria	786	100	schillings	486.79	491.69	479.46	499.02	489.24
Belgium	791	100	francs	171.76	173.48	169.17	176.07	172.62
Denmark	792	1	kroner	9.61	9.71	9.47	9.85	9.66
Finland	780	1	markka	15.80	15.96	15.56	16.20	15.88
France	793	1	franc	11.39	11.51	11.22	11.68	11.45
Creece	724	100	drachmas	104.04	105.08	90.17	106.65	104.56
Spain	785	100	pesetas	61.15	61.77	60.23	62.69	61.46
Holland	794	1	florin	30.63	30.93	30.16	31.40	30.78
India	543	100	rupeegl	874.72	883.52	-	-	879.12
Ireland	782	1	pound ⁴	108.34	109,42		-	108.88
Japan	784	100	yen	36.11	36.47	35.56	37.02	36.29
Yugoslavia	718	100	dinars	86.54	87.40	75.00	88.71	86.97
Canada	788	1	Can. dollar	71.00	71.72	69.93	72.79	71.36
Kuwait	770	1	dinar	299,49	302.51	00000	0000	301.00
Lebanon	152	1	pound	20,68	20.88	20.36	21.20	20.78
Libya	631	1	dinarl	296.19	299.17		600	297.68
Luxembourg	790	100	france	171.76	173.48	169.17	176.07	172.62
Norway	796	1	kroner	12.08	12,20	11.90	12.38	12.14
Portugal	779	100	escudos	85.93	86.79	74.47	88.09	86.36

				Fore	ign ange	Mon		
Country	Curr symb Cu		Currency	Pur- chase 4	Sales 5	Pur- chase	Sales 2	Aver- age 6
FRG	795	1	mark	34.33	34.67	33.81	35.19	34.50
United States	787	1	dollar3	87.65	88.53	86.33	89.85	88.09
Switzerland	797	1	franc	41.20	41.62	40.58	42.24	41.41
Sweden	798	1	kroner	11.46	11.58	11.29	11.75	11.52
Turkey	627	100	pounds	35.02	35.38	30.36	35.90	35.20
Gr. Britain	789	1	pound2	135.06	136.42	133.03	138.45	135. 4
Italy	799	100	lira	5.78	5.84	5.01	5.93	5.81
Iran	646	100	riall	103.62	104.66	102.06	106.22	104.14

FOOTNOTES

- 1. The Polish National Bank does not purchase money in these countries.
- Valid also in clearing accounts with the following countries: Nepal and Pakistan.
- Valid also in clearing accounts with the following countries: Bangladesh, Brazil, Ecuador, Greece, Iceland, Kampuchea, Colombia, Lebanon, Pakistan, Peru and Iran.

CSO: 2600/1053

INFIGHTING OVER REFORM ILLUSTRATED IN FORESTER'S POLEMIC

Warsaw LAS POLSKI in Polish No 4, 1-30 Apr 83 pp 8-9

[Article by Ryszard Konarski, M.A., Zielona Gora, District Director of State Forests]

[Text] The economic reform in forestry, and in particular he basic element in the reform, the financial system, is arousing lively interest on the part of foresters. This is attested by the increasingly lively discussion taking place around this problem. Let us hope that the discussion will result in the establishment of a system of meaningful financial incentives for workers employed in forestry enterprises, both in the phase of lumber production and its proper utilization and in the sphere of forest cultivation and protection.

I was induced to write this article by the statement made by the chief accountant of State Forests, K. Krych, in an article entitled "The Reformed Financial System of State Forests" (LAS POLSKI, No 9/1982), to the effect that the system of State Forests has been definitively reformed. I was upset chiefly by the statement that, and I quote, "The trouble is that, as previously, chiefly because of the resistance of the apparatus of the district State Forest directorates, these principles (those deriving from order number 15 of the chief director of State Forests of 7 June 1982—author's note) have not yet begun to be fully applied in the forest inspectorates," and further that "the principle, in conflict with the economic reform, of limiting expenditures, issuing orders, and the impoundment of virtually all the financial revenues is applied almost everywhere here. I believe, however, that the situation will prevail so long as the forest inspectors themselves do not take a hand in the matter."

Any reader can draw from these very blunt statements by the author the clear conclusion that the NZLP [Chief Directorate of State Forests] has done everything possible to institute the economic reform in the State Forests, while the "stubborn apparatus of district State Forest Directorates" is torpedoing these actions and will by no means allow even a particle of independence into the forest inspectorate; in other words, the forest inspectors themselves should take a hand in the matter and deal with this "stubborn apparatus."

For my part, I believe that the progress made thus far toward implementing the economic reform in the State Forests suggests that one should look at this problem in an entirely different light.

In order to assess honestly and truthfully the introduction of the economic reform in forestry, let us consider for a moment the main idea underlying introduction of the economic reform in the country and answer the following questions for ourselves:

- 1. Where did the previously prevailing system of directive administration of the national economy ultimately go wrong and how is the reform supposed to set things right?
- 2. Is the Chief Directorate of State Forests trying to put the basic institutional realignments of the reform into practice in a manner in keeping with the spirit of the reform?

In answer to the first question it should be said that the system of directive administration, that is, the command-directive system of resources allocation is characterized by the fact that a specific "central authority" exerts influence on enterprises subordinate to it through a system of directives or commands and distributes financial and material resources in an authoritarian manner. The enterprises must carry out these directives and commands. The experience of the 1970's demonstrated that these "centers" never stopped to consider what the financial effects of the decisions they issued would be, that is, how much an individual command would cost. The enterprises were responsible for the effects of these decisions.

A peculiar duality of authority and responsibility was thus created: one set of persons made decisions and bore no responsibility for the correctness of their decisions, while others carried out orders and bore the entire burden of the responsibility for the decisions handed down from above. This led to uneconomical management and waste and ended in the economic crisis.

Hence the main idea underlying the reform, that is, the idea of uniting authority and responsibility in one place. Thus the reform makes the enterprise an economic subject and places in its hands the well-known three "Ss," so that it can itself make authoritative decisions, carry them out itself, and itself bear the consequences of its own decisions.

Let us now answer the second question, on the basis, of course, of the legal acts which have already been promulgated or are being prepared for introduction: Does the NZLP intend to apply these criteria of the reform in practice?

The fundamental legal act currently in force is the decree of the Council of Ministers "On the Detailed Principles governing the financial mangement of State Enterprises" of 28 June 1982, published in the DZIENNIK USTAW No 20 (the portion of the decree relating to the State Forests was drafted by the NZLP), and order No 15 of the Chief Director of State Forests deriving from this decree.

Mandatory centralization of resources in the NZLP is introduced on a large scale in both of these legal acts, specifically:

- (1) Funds held in the enterprise profit-rate equalization account;
- (2) 20 percent of depreciation allowances;
- (3) Resources in the area of the forest fund:
- (a) 10 percent of the deductions charged to enterprise operating costs;
- (b) 40 percent of the claims awarded for damage inflicted by industry;
- (c) 100 percent of receipts for forest land sold;
- (4) 50 percent (and now 100 percent) of the technical and economic progress fund.

The Chief Directorate of State Forests has secured for itself legal independence in the area of redistribution of all these funds.

A legal act even more clearly revealing of the centralizing trends prevailing in the Chief Directorate of State Forests is the draft of a new law on state forestry prepared in its entirety by the NZLP and distributed for local consultation. Inasmuch as not all foresters have, I think, received this draft, I will take the liberty of quoting some of the statements contained in it, adding a few modest comments of my own:

"The minister of forestry and the timber industry exercises supreme direction, supervision, and control of state forestry." This is a major development in terms of the implementation of Poland's economic reform whereby the role of manager is forced on a government minister; he is thereby transformed from a member of the government into the director of a gigantic concern.

The State Forests system is headed by the general director of State Forests.

"The duties of the general director of State Forests include direction of the activities of the State Forests." Are State Forest enterprises run by directors of the regional directorates of State Forests or by the chief directorate of State Forests?

"The bylaws of an enterprise will be approved by a general meeting of the workers at the recommendation of the enterprise director prepared on the basis of guide-lines issued by the general director of State Forests." Against the eventuality that an enterprise might depart from these "guidelines," there is another point: "The bylaws of an enterprise are subject to approval by the general director of State Forests."

"The organs of workers self-management also include State Forest Collegium."

"The State Forests Collegium regulates matters submitted by the general director of State Forests or introduced by members of the collegium and of fundamental importance to the State Forests." It is not quite clear what the word "regulates" means within the purview of the law and what in this context are to be construed as matters of "fundamental importance."

Other examples could be given, but I believe this would be superfluous. It is quite clear who is understood by the NZLP to exercise this "executive managerial authority," who is to decide on the bylaws of State Forest enterprises, and that the State Forests Collegium is only an organ of self-management and "regulates" something or other. I am an optimist and firmly believe that these statements will not be found in the new law. However, along with the system of mandatory centralization of funds already introduced, they constitute clear proof of how the chief directorate of State Forests understands the economic reform and that it has no intention whatever of relinquishing authority to the district directorates of State Forests.

Moreover, the argument formulated by the NZLP to the effect that "the specific features of forestry determine that it must be centrally directed" has been proclaimed for a long time now.

This argument is erroneous. Consider forestry in West Europe, in the Scandin-avian countries, or even in certain socialist countries. Forestry there teems with privately-owned forests, and forests administered by various associations of cooperatives, community forests, and, despite this fact, the standards of forest management in these countries is not at all lower than in Poland. Wherein, then, does Polish forestry differ so that it must be centrally directed. We find no answer to this question, since there is none. There is rather something else. Regardless of the form of ownership, uniform principles of forest administration and uniform technical cultivation principles are mandatorily applied in all forest management in all the countries referred to, but they are elements of economic policy rather than of administration.

Consequently, the argument is I cited above should properly read as follows:
"The specific features of forestry determine that uniform principles of economic policy must be applied to it."

The ministry of forestry and the timber industry is charged with conduct of economic policy in forestry, and it is high time for the chief directorate of State Forests to delegate administrative and managerial authority to the enterprises. Only then will the regional directorates of State Forests be able to assign a certain level of independence to the forest inspectorate.

I consider the following policy measures to be of fundamental importance for introduction of the economic reform in the State Forests system:

-- the activities of the State Forests are to be directed by the State Forests Collegium,

-- the chief directorate of State Forests is to be the executive organ of the State Forests Collegium,

- -- all mandatory centralization of resources must be abolished,
- -- the level of the deduction for the forest fund should be decided by the director of the regional directorate of State Forests or the State Forests Collegium, in a manner in keeping with the needs and capabilities of the individual enterprises.
- -State Forests Collegium is to decide in each instance on formation of centralized funds and on the degree of such centralization, and the Collegium is to determine the channels of redistribution.
- -- the bylaws of the State Forests are to be established by the State Forests Collegium and are to be approved by the minister of forestry and the timber wood industry.
- -- the bylaws of an enterprise are to be approved by a general meeting of workers.

A matter of cardinal importance is obviously the passage of a new law on State Forestry through which the policy measures indicated above would be enforced.

One final explanation remains to be made, especially to the personnel of the forestry inspectorates, regarding the substance of these "reformed principles of financial management of units subordinate to the regional directorates of State Forests" deriving from order No 15 of the chief director of State Forests, an order which the apparatus of the regional directorates of State Forests is unwilling to carry out. The point is that this profit equalization account imposed on enterprises should be introduced into plants. All units showing a profit higher than the average in the enterprise must, in accordance with order No 15, surrender part of their profit on behalf of units showing a profit lower than the average (that is, all units must show the same profit).

Let us assume that this adjustment has been made and funds have been transferred among units. The next step should be the transfer of the profit to the enterprises for financing capital investment projects. What is the purpose of these sham operations? It is not merely to keep up appearances and divert attention from the persons really responsible for impeding introduction of the reform?

One other thing. The author of the article cited at the outset charges the district directorate of State Forests with limiting expenditures, issuing orders, and impounding revenues. I have explained in the foregoing what this impoundment of revenue consists of, and, as regards the other objections, they are destroyed by K. Krych's own words published in issue number 6/1982 of LAS POLSKI; I quote: "...what with the current critical situation in the country, it (that is, the economic reform--R.K.) cannot be expected automatically to provide enough money for an enterprise. On the contrary, money will now be more difficult to come by and there will be less of it in circulation."

This is true. The lack of money necessitates conservation and rationalization of expenditures. But should this be termed "limitation"?

To recapitulate, I maintain the position that it is high time to put an end to the sham operations and the aiming of trumped up charges at the enterprises. It is time finally to start introducing true economic reform in the State Forests system.

6115

CSO: 2600/899

ROMANIA

PLANS FOR INTENSIVE USE OF ENERGY IN AGRICULTURE

Bucharest ERA SOCIALISTA in Romanian No 9, 10 May 83 pp 11-13

[Article by Bujor Manescu and Victor Manole]

[Text] In the context of current and long-range needs of Romania's socioeconomic progress and the ramifications generated by the world energy crisis, energy is one of the vital issues in the strategy of this country's development in the following decades. In this light, the directive-program for research and development in energy, outlined by the 12th Party Congress points out the need for our country's becoming in a short span of time self-reliant in terms of fuel and energy, with utmost capitalization of all our available energy resources, concurrently with most efficient management of the energy potential and significant reduction in energy consumption per unit of product in industry, transportation, agriculture, construction and so forth.

These considerations underlie the concept of and the approach to the entire development of our agriculture. This is all the more so because the development and modernization of agriculture based on a more rapid process of intensification, by use of the new techniques, have resulted in a greater degree of dependence of increased agricultural production on higher consumption of energy, specifically of oil products. The data on the evolution of agriculture during the last 3 decades point out that the rise in energy consumption has been greater than that in agricultural production. For instance, while during the 1950-1980 period agricultural production went up only by a factor of 3.6, liquid fuel consumption in agriculture rose by a factor of more than 16, of chemical fertilizer, 190, and of electric energy, more than 56. Such an evolution naturally resulted in a drop in the energy yield (expressed as the ratio between production and energy consumption) in agriculture,

While in animal husbandry the energy yield shows a slight trend of improvement, the situation in plant production is not gratifying. Of course, the trend of reduction in the energy yield in plant production was chiefly generated by greater mechanization of farm operations, by expansion of irrigation systems and hothouses, by the greater use of chemical fertilizers, herbicides and other chemical products, fuels and lubricants, and the like. All this has resulted in the greater and greater consumption of oil, metal, glass and other items and caused agricultural production to be increasingly dependent on nonrenewable energy resources.

Indisputable are the outstanding successes obtained in Romania by agrobiological sciences, by technique and technologies, by the use of advancements in bioengine-ering, by chemicalization and the like, all this resulting in greater farm output and labor productivity. But the world energy crisis prompts us to evaluate the cost obtaining these outstanding successes. It is evident that the production techniques and technologies and greater chemicalization were conceived in the day of inexpensive energy, with energy costs at that time being insignificant. But the attraction of insignificant energy costs led to the promotion of technologies chat, for instance, denied the use of crop rotation and manure, only focusing on chemical fertilizers, which, indeed, generated spectacular production increases. Likewise, in animal husbandry, giant industrial complexes were built, which were highly profitable in those days.

Today, the avenues to more intensive farming are incorporated into the concept of the new revolution in agriculture, which involves a new strategy of development of a more productive and more efficient agriculture in terms of cost- and energyeffective criteria.

Greater Conversion of Solar Energy

In compliance with the goals and tasks of the new revolution in agriculture, we feel that in tackling the efficiency of energy use in agriculture one needs to proceed from the concept according to which the tasks of boosting agricultural production can be regarded as independent only to the extent that they are completed in the context of energy consumption rates per unit of product which are lower than the current ones. To achieve this goal it is imperative that every extra assignment of energy resources in agriculture result in obtaining a production increase whose energy equivalent is at least equal to the extra energy consumption. Only by following this basic principle one can ensure a scientific substantiation for the assignment and use of energy resources in agriculture and the rise in energy yield in this sector.

However, the starting point in promoting the new strategy of agricultural development must involve the greater utilization of solar energy, which would result in increasing the amount of biomass obtained per unit of surface. In the first place, this involves strictly meeting the requirements in agricultural production zoning, which aim at the territorial distribution of branches and crops in light of existing pedoclimatic and economic conditions. It is estimated that this svenue alone can lead to obtaining, without extra energy costs, a production rise of 15-20%.

In the second place, there even seems to be a need for crop rotation, of course within the admissible limits imposed by the national economic requirements, so that there may be an increase in the volume of those that are characterized by a high rate of conversion of solar energy into potential energy. Among the crops characteristic of our country, two are outstanding in this regard: corn and soybean. They convert more than 4 percent of the solar energy radiated on the soil, versus only 1 percent, the average for all crops. Promoting the expansion of these two crops also is the fact that they provide the "nutritional key" to the development of animal husbandry, as they are capable of ensuring a balanced protein fodder base.

Scientific research provides a special input into enhancing the role of solar energy in increasing agricultural production and its energy yield. Research is allotted the task of evolving strains and hybrids of plants that are characterized by a greater capacity of transforming solar energy into a biomass that is useful to society. Hence, the biological revolution will play the main role in the factors of development and modernization of agricultural production in general and of plant production in particular. Under these conditions, objectively, there will be a reappraisal of the place and role of the various components of the scientific-technical revolution in agriculture.

World experience and Romania's own experience point out that the safest and most inexpensive method for resolving the energy problem is energy saving itself. This kind
of energy policy consistently promoted by this country has required and continues to
require programs for wise management and utilization of all types of energy,
rigid conservation and better use of energy in agriculture as well. These programs
include all the measures which are specified in agriculture to reduce consumption
rates for fuels and other products that are obtained out of petroleum, metal, coal
and other nonrenewable resources, beginning with the reevaluation of production
technologies and ending with the formulation of special programs for greater increase in the number of draught animals.

The reevaluation of production technologies in agriculture is a very complex proinvolve all the branches of agricultural science whose resolution must and not only these branches. A first step in this area involves eliminating some useless links of these technologies, which are unjustified in light of economic considerations and all the more so in terms of use of energy. In the case of plant production, for most of the field crops, the complication and sophistication of some technologies has resulted in the energy costs growing at a far more rapid rate than production did, with the reduction of energy yields as a consequence. That is why there is the need for switching to the rationalization of technologies by introducing the system of minimal soil use, use of complex machines which are capable of performing several operations in one run and also devising better approaches to structuring harvesting and conveyance, so as to reduce consumption rates for fuels. The experience of the Fundulea Research Institute (ICPT) indicates that reduction of the depth in performing basic soil operations, without any impact on the harvest, can produce a saving of more than 8 liters of gas-oil per hectare and the experience of the Institute for Research, Design and Engineering for Mechanization of Agriculture on long-range technologies points out that the use of refined complex machines that perform combined operations can result in a gas-oil saving of more than 25 liters per corn hectare and about 17 liters per wheat hectare.

Another avenue to reducing energy consumption rates in mechanized farming operations involves an arrangement for the production of new kinds of tractors, machines outfits and facilities for agriculture, which, in addition to modulation and standardization must also ensure lesser weight (saving of metal), lower fuel consumption greater speed and capability for use in the widest possible range of operations (all-purpose use).

The reevaluation of technologies focuses not only on mechanization but equally, if not even more, on chemicalization of agricultural production. As the use of energy

in agriculture becomes more intensive the main factors in terms of fossil energy consumption tend to involve chemical fertilizers, pesticides and herbicides. Among fertilizers, the greatest users of energy are nicrogen fertilizers (about 2 kg of oil are needed to obtain 1 kg of active substance). The problem of using chemical fertilizers in our agriculture is all the more complex because the major fertilizers required by the soils are the nitrogen ones (the nitrogen:phosphorus:potassium ratio nationally is 2:1:0.5). This situation necessitates, in addition to outlining the methods for vise use of nitrogen fertilizers, focus on supplementing the needs for nitrogen with organic fertilizers and introduction into crop rotation of forage or leguminous plants (beans), that have the property of capturing and storing the atmospheric nitrogen through the nodosities on the roots, that remain in the soil.

Of course, the rationalization of the use of chemical fertilizers will not mean reduction per unit of surface but, on the contrary, under the conditions in this country, where the quantities administered per hectare are far smaller than they are in countries with an advanced agriculture, it is expected, as is known, to even increase these amounts. Rationalization involves determination of optimal amounts of chemical fertilizers per unit of surface, substantiated scientifically in terms of cost- and energy-effective criteria.

Utilization of the results of researchers nationally permits the classification of the major field crops according to the level of the energy yield of chemical fertilizers (it is calculated as the ratio between the energy equivalent of the production increase and that of the amount of fertilizers applied). According to this classification, the sequence is: for nitrogen fertilizers — rice, potatoes, sugar beet, wheat, corn, tomatoes, bell peppers, cucumbers; for phosphorus fertilizers — sugar beet, potatoes, rice, wheat, corn, tomatoes, bell peppers, cucumbers; for potassium fertilizers — sugar beet, rice, tomatoes, potatoes, corn, cucumbers, wheat and bell peppers.

The classification, specifically in the case of nitrogen and phosphorus fertilizers, points out that the legumes and then corn involve the lowest energy yields. Therefore, as a measure for rational use of energy it is necessary in assigning chemical fertilizers to the various crops to place the emphasis on their energy yield, in this way ensuring maximum production of energy with the same use of chemical fertilizers. The maximum fertilizer assignment level must involve obtaining a conversion rate of minimum one. Currently, because of the eagerness to obtain the greatest possible output, nitrogen is administered to almost all crops, while the other fertilization resources are neglected, even though some of them are regenerable and far cheaper (full use of manure, green fertilizer, expansion of areas under forage legumes or leguminous plants, beans, and so on).

Moreover, of special importance are extensive use of biological methods for plant protection and restriction to the minimum of the use of pesticides and herbicides, steps that would lead not only to lesser pollution of soils and farm products but also to significant savings of energy.

In animal husbandry, reappraisal of technologies focuses on upgrading the methods for preparing and storing fodder, reducing consumption rates of fuel for heating sheltering areas in wintertime for some categories of animals, consumption rates of electrical energy and forage loss.

Use of Nonconventional Energy Resources

The rationalization of energy use, in accordance to the new strategy of agricultural development, also involves ampler utilization of nonconventional energy resources in this branch. The program for the production of energy under the 1981-1985 Five-Year Plan and the development of the country's energy base by the year 1990 points out that special attention must be paid to utilization of solar and geothermal energy, eolian energy, biogas, biomass, energy obtained from household and industrial waste and from other products.

In agriculture, solar energy can be used in very broad areas, such as production of industrial and household hot water, in drying products, in heating hothouses and nurseries. In this context, research and design institutes have conceived a number of facilities for various uses. They include the water heating installation for preparing the milk substitutes required for animal feed and for industrial washing of the feed distribution installation. By this procedure water is heated at 45°C and the output of the installation is 1,500 liters in 24 hours. Very good results also were obtained with the water heating installation for maintaining the fermentation process for production of biogas out of dejecta from hog complexes.

In the area of reducing conventional energy consumption, eolian energy involves great potentialities, specifically in Dobrogea, in the upper part of the Baragan Plain, in the Moldova Plateau and the eastern plain. In agriculture, eolian energy can be used in drainage and irrigation, water supply, powering of some stationary machines in animal raising, and powering of electric generators. For instance, in Romania, electric wind mills were constructed——with an annual production of 164 kWh, water pumping installations with a yield of about 514 1/h, at a median wind speed of 2.2 m/s.

The great needs for thermal energy of the vegetable growing sector and specifically of the hothouse complexes and centers for the production of seedlings, plus the need for rigid conservation in terms of high-grade fuels in this sector, call for more economical sources of heat. Hence, there is the need for increased use of nonconventional energy sources, such as biofuel, biogas, and also expansion of the systems of crops that are less energy intensive in forced vegetable growing.

The heat loss in hothouses can be reduced by perfect sealing of the roof and lateral walls of glass and also by elimination of any unsealed portion in their construction. For example, as a result of complete sealing of hothouses, at the Arad Economic Association of Nurseries a fuel saving of about 10% was obtained. Good results were also provided by the tree belts planted in the immediate proximity of the nurseries located in the areas with frequent and dominant winds. These procedures also resulted in a 5% reduction in heat loss coupled with the same amount of fuel saved.

In the area of reducing energy consumption in nurseries and avoidance of heat loss, good results can be obtained also by building lateral walls and roofs out of two glass structures or one layer of glass and one of plastic material. Rows of plants inside the nursery are covered with tent-like plastic material (polyethylene or PVC) on frosty days.

These approaches tested in several production units ensured heat savings ranging between 5-30%. Nationally, they would ensure a saving of 0.25-1.5 million Gcal annually, valued at 25-150 million lei.

Furthermore, biogas is a resource that can successfully replace conventional energy. It is known that it can be obtained from anaerobic fermentation of manure and plant or household waste. Biogas has many uses: in households, in heating water and in obtaining the heat needed in animal raising units, fuel for tractors. Although it has been greatly expanding in recent years, the production of biogas in this country still is very low. We cannot compare ourselves with countries that have traditions in this field (the People's Republic of China, for instance, has more than 6 million industrial facilities for the production of biogas). In light of the absolute need for conservation of oil, natural gases and coal, all agricultural units and private farms that have resources for the production of biogas must build their own facilities for the production of this regenerable and inexpensive fuel.

Of course, we cannot expect a miracle or spectacular, immediate results from the nonconventional sources of energy and biomass, in general, from the energy-effective plants, in particular. However, this inexhaustible source of energy cannot be neglected because it can be instrumental in saving energy in agriculture and favorably affect the country's balance of payments. In order to energize this totally new

agricultural energy-producing sector, ampler research is neederwith respect to the nonconventional sources of energy and biomass in Romania and the methods for bioconversion, and also surveys of analysis in the area of efficiency of investment projects and the various biomaterials used for this purpose. In our judgment, there is need for new studies in the area of designing high-standard facilities at low costs.

Conservation of energy should by no means occur in the context of detriment to crops, of decrease in their production potential.

Improvement and greater energy-effectiveness of agricultural production should underlie energy conservation. Consequently, the focus should be on increasing energy output and concomitantly decreasing energy input by more efficient utilization of the amounts of fertilizers and plant protection chemicals, more accurate estimation of agrobiological needs, of crops, application of phytosanitary treatments according to warnings, amelioration of animals' health. Very important is expansion of genetic

research. This research will make it possible to develop more productive strains, with a higher phytosyntetic content, highly resistant to diseases, viruses and pests, hence requiring a lower level of treatments or no treatments. Another avenue is application of more efficient and more productive techniques, concurrently with expansion of leguminous—type ameliorative crops that produce nitrogen and organic matter in the soil, and with increase in areas and output per unit of surface. Moreover, there is the need for more efficient action to reduce consumption of direct energy, by gradual and prudent decrease in the use of fuels, as new, high-standard and more productive complex machine and installations emerge, that can perform several operations simultaneously, for the gradual replacement, wherever possible, of conventional fuels with nonconventional ones.

By and large, energy conservation in agriculture must be viewed prudently, without exaggerated enthusiasm indicating that nonconventional sources will lead to very low use of conventional, fossil fuel. The essential point is, primarily, to offer production and farmers the most cost-effective technologies and high-standard machines and installations that use low levels of energy. The investment projects that are anticipated and completed must be based on the principle of saving energy.

All that is planned, structured and completed must be imbued with the idea of energy conservation whatever its form may be, the idea of avoiding any energy loss. Consemitantly, there is the need to broadly use, wherever possible, non-conventional energy sources, which, in some cases, supplement or replace conventional sources.

Hence, there are enough factors, both on a short- and long-range basis, which cause us to view with optimism the resolution of the complex energy problems of agriculture, that is capable of increasing its input into the country's overall economic growth and the satisfaction of the nutritional needs of the population.

11710 CSO: 2700/44

ROMANIA

PROGRESS IN MACHINE BUILDING IMPORTANT FOR ENERGY PROGRAM

Bucharest ERA SOCIALISTA in Romanian No 8, 25 Apr 83 pp 13-16

[Article by Ion Crisan]

[Text] The relationships between current problems in meeting energy demands on one hand, and those of industrial development on the other, are not only very complex, but contradictory as well. In some countries and some industrial branches, the energy crisis has caused the slow-down and closing of production capabilities, unemployment, and idle equipment. At the same time, we saw a strong indication of the contradictions between high consumption technologies and the restrictions imposed by limited resources. In reality, "the raw materials and energy crisis does not represent a crisis for industry, but the contrary: industry is now asked to provide wore elaborate solutions and much more efficient manufacturing methods, so as to give mankind the products it needs." (Ioan Avram, "Machine Construction, Support for Technical Progress," in ERA SOCIALISTA, No 4/1981)

Indeed, the present crisis has triggered extensive technologic reactions in all industrial branches, both in drastically reducing consumptions, and in the use of new resources. In one way or another, all these reactions find an echo in the machine building industry, which must respond promptly by creating new equipment and technical systems.

Clearly anticipating the evolution in this field, the leadership of our party, and Micolae Ceausescu personally, have initiated broad actions which have prepared the Romanian economy to support with the least risk the turbulent period of transition into the new technologic equilibrium. I am referring to the comprehensive programs of coordinated development in the machine building industry, formulated following the Minth Congress of the RCP, and reviewed and adapted during every five-year plan on the basis of 10-20 year forecast studies; among these, the studies for developing the manufacturing of energy producing equipment have resulted in a spectacular growth during the past decade. We need only mention that during this period the performance of electricity generators in thermal power plants and manufactured in Romania, has jumped from 6 to 330 MW per unit, concurrent with a significant increase in the production of boilers for low quality coal, hydroelectric generators, and so on.

At present, the Program-Directive for Energy Research and Development During the 1981-1990 Period, and Major Orientations for the Year 2000, adopted by the 12th Party Congress, represents for the Romanian machine building industry the global framework of action for several priority programs which focus both the production potential and the research and technical engineering forces, on basic objectives dictated by the national economy. These programs cover two major directions of action: 1) develop electric power production and assure the raw materials basis, and 2) conserve energy.

The achievement of the major goal--assuring Romania's energy independence by the end of the current five-year plan--as decided by the party, depends primarily on increasing the production of energy through radical modifications in its structure. In essence, the objective is to nearly completely replace hydrocarbons with coal, as well as to introduce a significant amount of nuclear power production in the country's energy balance.

The very rapid growth of coal-produced electric power places great obligations on the machine building industry, particularly in terms of supplying the necessary boilers. Quantitatively, the transition from hydrocarbons to solid fuels of lower calories determines a significant improvement in the volume of equipment needed to produce the same amount of steam. In order to produce 1000 tons of steam for instance, a lignite-fired boiler weighs nearly three times more than one that burns oil, and a boiler for bituminous shale is nearly five times as heavy.

But the most important problems facing the boiler manufacturers are those that involve improved burning processes and higher product reliabilities. Through domestic design and tests, several improvements have recently been made to high capacity boiler burners that use low quality lignite, with respect to the approaches used in license documentations, improvements that are now being generalized. Coal mills have also been improved. The effect of these measures will be an appreciable reduction in the consumption of hydrocarbons that has to be introduced during burning, better performances from electric power generators even when using coal with fewer calories than the ones initially planned, as well as greater reliability of steam producing systems. In parallel, we have implemented several coal boilers with small and medium-sized capacities; some of them use fluidized bed burning, without grate, a process that offers great advantages over the conventional one. We are also installing the first large capacity boilers for bituminous shale, which were also designed in Romania; these boilers will form the basis for an important development aimed at producing electric power with this raw material, which contains very little energy and which is being utilized for the first time here.

During the immediately following period, we are planning to undertake the gasification of low quality coal, and thus expand the possibilities for using solid fuels to produce thermal energy. Experiments conducted by the Ministry of the Machine Building Industry together with the collective of the specialized school at the Bucharest Polytechnic Institute, have demonstrated the possibility of using low quality gas-generator gas to "assist" the burning

of coal on grates instead of methane or oil, a possibility which could lead to the total elimination of hydrocarbon consumption in large boilers. Particular attention is now being devoted to creating the equipment necessary to process coal through highly mechanized and automated means, so as to assure the constant supply of boiler-generator systems with fuels that have consistent characteristics. But a systematic approach must be taken toward this problem, which has many different aspects depending on the magnitude of the consumption and the location of the consumer, and which involves an extensive range of equipment for unloading, transportation, loading, sorting, measuring, and processing. The problem is thus a multidisciplinary one, affecting in equal measure miners, power producers, and machine builders. The latter have the task of manufacturing the necessary equipment using a unified, highly standardized design.

No less important are the obligations of the machine building industry toward the growth of coal production, which according to forecasts must double in three years from 44 million tons in 1982, to 87 million in 1985. A vast program is thus being undertaken for the design, technical preparation, and development of production capabilities for a wide range of equipment intended both for surface exploitation and for mechanizing underground operations. In the first category are large capacity excavation and transportation systems, equipment that is highly advanced in terms of size and output. In the second category is mechanized removal equipment, as well as a system for mechanized gallery support. It should be mentioned that this equipment operates in ways that are totally new compared to the conventional tooling. Quarry exploitation equipment, for instance, uses high power, variable speed, direct current motors, while the support equipment and other tooling uses hydraulic power.

Another innovative approach in coal extraction is the boring of mining wells with large-diameter drilling equipment. Such a system was recently built according to domestic designs, using the experience gained in the building of oil drilling installations, and is now being tested. It is expected that mining wells will thus be bored in a much shorter time, easing access to relatively great depths.

Before closing the chapter on the problems associated with increasing the production of coal—the most important energy raw material of the next decade—we will attempt a brief glance ahead. To the question whether this priority will persist over the longer term of 20-30 years, the answer is definitely affirmative. But the size of useful resources depends on our capability to create the technologies necessary for economically justifiable exploitations, and the application of these technologies depends in turn on our capability to create the necessary machinery.

The optimum solution to the rerserves-technology-equipment relation will ultimately determine the planned restructuring of the country's energy balance. In this respect we must keep in mind the special conditions of most of our coal deposits, some of which are conventionally considered as unfavorable. In order to be able to transform these resources into usable

reserves, we must develop new technologies and equipment. In such cases, the acquisition of foreign technologies and tooling did not always prove to be a good solution. It would seem that the time has come for domestic technical research based on the specific conditions of Romania's coal deposits. And to quarantee the efficiency of this research, it is absolutely necessary to assure that it is multidisciplinary: specialists in extraction, processing, and equipment construction must work, and especially, experiment together. In this respect, the creation of joint experimental bases appears indicated, for instance in the form of pilot exploitations. The existence of such research conditions would facilitate the approach to unconventional solutions, and would allow the creation of flexible technologic systems, adapted to the variable deposit conditions specific to our country. In these systems, microelectronics and process control with sensors could be substituted for human operator functions. The timely construction of models and prototypes for such mining equipment would open the way for the mining technology and equipment of the future.

The electric power obtained from hydroelectric plants—the white coal—which was in third place in 1982, will move to second position during the next five—year plan. This shift is entirely possible given, among other things, the experience gained by the Resita machine builders in designing and fabricating hydroelectric generators. During the next five—year plan they are expected to provide for installation and operation more than 3300 MW, the equivalent of 87 percent of the entire 1982 hydroelectric installed power. Many new problems have of course to be solved as a result, among which is the creation of reversible bulb—type turbines, intended to function both as generators and pumps.

Third in the production of electric power in 1990, will be nuclear plants. The programs undertaken to build the first nuclear power plants that are highly integrated into the national network, are occupying a large portion of the potential of the machine building industry in solving problems that challenge the state of the art of world technology.

The organization of nuclear equipment manufacturing does indeed require first of all the formulatation and implementation of technical processes whose specifications are very demanding, both in the fabrication of major parts, steel formulation, casting, and forging, and in terms of assembling, welding, mechanical processing, anticorrosion coatings, and installation. The successful completion of these steps implies not only rigorous compliance with documented instructions, but also perfect accuracy in execution and great attention to every detail. In other words, precision mechanics applied to heavy machinery dimensions. In the fabrication of nuclear equipment, the magnitude of the responsibility inherent in each dimension, wall thickness, boring tolerance, welding speed, or surface finish, greatly exceeds that of conventional technologies. This particular level of tolerance requires the verification of materials being processed, as well as quality control based mostly on new methods or on known methods that have been honed to a very high precision.

Ultimately, the problem is to implement quality assurance systems in all plants that produce nuclear equipment, and in institutes which participate with technologic research and designs, systems which integrate a large number of technical and organizational measures. Enterprises involved in nuclear production are endowed with special equipment, and their machine-tools and other installations are suited to the purpose. But a considerable effort of organizational and technical training is necessary for the produced equipment to meet designed specifications and operate reliably.

The shift to the exploitation of new sources of energy also assigns large tasks to the machine building industry. To exploit solar energy for instance, several types of solar panels have been produced, among which some which concentrate the energy in the case of applications that require higher water temperatures. During the next period, emphasis will have to be placed on technologic improvements and new manufacturing approaches which will reduce costs and the consumption of materials that are in short supply. The importance of this problem can be gauged by the fact that with present fabrication methods, the cumulated energy consumption to produce the panels, including materials, is not recovered from the useful generated power before two years of operation.

The exploitation of the energy contained in geothermal sources requires that the selection of pumps that can operate at great depths and high temperatures be expanded, an action that is currently under way. The variety of ways in which it is possible to utilize solar and geothermal energy increases considerably through the use of heat pumps. A first family of heat pumps for low and intermediate flows has passed from the laboratory phase to industrial production; pumps for higher flows are the object of programs for the upcoming years. Also under way is a program to adopt a range of wind turbines of up to 50 kW per unit. In this context as well, is a line of microhydroelectric generators of 10-1500 kW per unit, which have been placed in production and will be developed gradually. This makes it possible for the largest number of users in industry and agriculture to use standard designs formulated by specialized institutes, as well as equipment in current production, to build a large variety of installations based on the above mentioned sources of energy, with verified, efficient solutions.

In any type of long range view, it becomes interesting to combine new sources with conventional ones, as well as to mix several type of new sources of energy. I mentioned earlier arrangements based on conventional sources with low thermal potential (sun or geothermal energy) enhanced by heat pumps that produce hot water at temperatures of industrial interest, and that consume only one-fourth of the energy needed to obtain the same number of calories directly from the primary sources. These methods are well known, and within the limits of the heat pumps manufactured in Romania, could extensively exploit the heat losses generated in cooling the water used for various technical processes, engines, compressors, and so on.

An interesting synergetic solution can be found in biogas stations at animal farms, or in installations for methane fermentation of muds resulting from the purification of all types of water. The biogas production of these

installations is known to be continuous, while consumption can vary withing wide limits. One solution for eliminating this mismatch is to use the gas for driving an electricity generator and delivering the excess power to the national electric network. Such a generator has been built through the collaboration of two institutes—the National Institute for Thermal Engines (INMT) and the Institute for Scientific and Technical Engineering Research for the Electrical Power Industry (ICPE)—in two sizes; it consists of a thermal engine driven with biogas, and a stabilized alternating current generator with its ancillary control and network connection system.

Other methods for using relatively low temperature heat sources are based on the vaporization of agents which change into gas at such low temperatures (Freon for instance), and their expansion in special turbines which drive electric generators. These examples are far from exhausting the variety of such synergetic methods. But in order to gain a few percent of efficiency in transforming primary energy into electric power, it becomes necessary to fabricate new types of equipment, some of it particulary demanding.

Still on the subject of the second major direction of action—energy conservation—we must understand how the characteristics of machines and tooling influence, mostly through their power losses, the rational utilization of energy in all branches of the economy. All machines are actually power transformers which receive energy in some form and return it in another. This transformation is not without losses, but the level of the losses can to a large extent be determined during the design and construction of the machines. The optimization of efficiency is a classic energy problem; in general, a compromise is reached between machine cost (which increases with efficiency) and total efficiency. As the value of energy increases it is normal to seek higher efficiencies, which implies special construction and technical measures.

At present, growing importance is attached to energy efficiency in all research and technical energy units of the machine building industry. The redesign of products that channel large amounts of energy is consistently aimed at higher efficiencies, in many cases adopting new construction and technologic solutions. Several fields have thus recently been strongly influenced by the requirement to increase efficiency: power machinery, thermal engines, actuating mechanisms, pumps, and blowers. One of the basic criteria in defining the national thermal engine program formulated by the specialized institute, has been to reduce the specific fuel consumption of each family of modernized engines, and the adoption of maximum efficiency solutions for the new families being introduced. In gear mechanisms, the wider standard construction of hardened and ground teeth has resulted in appreciable efficiency increases, which for the current five-year plan as a whole means a reduction in energy consumption of about 70,000 MWh. Many lines of pumps, compressors, refrigeration systems, and blowers, have been redesigned to increase efficiency from 4 to 10 percent.

It should be noted however, that many possibilities for additional efficiency increases still exist. Particular attention must be devoted to such problems as: reducing friction losses by using improved bearings, proper selection of

lubrication, and avoiding all fabrication weaknesses that cause additional mechanical losses through friction, vibration, and noise. Immediate measures that offer great possibilities for higher mechanical efficiencies are the wider use of teflon composite materials, oil-less bearings, as well as air and hydrostatic bearings. In heat transfer, we must be more concerned with manufacturing standard heat transfer components for gases and liquids with improved specifications, as well as the domestic fabrication of superior heat insulators with low heat mass. All these construction improvements require the introduction of better methods to measure efficiency and all types of energy losses, which must be placed in current use at industrial testing sites.

In summary, we can say that the production of more efficient machines amounts to higher requirements in their design and construction, a level that is accessible only through the use of the best modern technologies.

No less attention is needed to reduce energy consumption in the production processes of the machine building industry itself, which is known to be a high consumption branch. Among branches, it is the seventh in fuel consumption and fifth in electric power. Energy costs do not enter significantly in the cost of machinery; despite this, reduced consumption of energy in the branch are focusing and must focus the multilateral concern of our industry.

The energy balance by branches, formulated by the specialized commission of the Central Institute for Machine Construction, provides useful indications about the priorities of various categories of measures taken for this purpose. The major technical consumers of energy in the branch are the hot sectors, foundries, forging, and heat treatment shops, which add up to 51 percent of the total fuel consumption and 28 percent of the electric power usage. In these sectors, measures to reduce energy consumption are based both on the introduction of new technologies, such as the preparation of charge materials to optimum density, the treatment of liquid steel in vacuum, or the elimination of thermal dehydrogenation treatments for forging ingots, and on improved methods for heating semifinished products and parts. An important role in reducing energy losses in our branch is the modernization and replacement of low thermal efficiency furnaces in forges, including the introduction of induction heating of parts with high frequency currents. With the use of modern ceramic fiber insulations in the construction of forging and thermal treatment furnaces, these savings will increase two-fold.

Processing, surface treatment, and assembly shops are the major energy consumers of electric power, adding up to 55 percent of the total consumption. In machine-tool processing, the measures are primarily of an organizational nature, aimed at reducing dead time on machines as well as additional processing on raw parts. Special attention is necessary for compressed air installations, which consume a large portion of energy and have relatively low efficiencies. Compressed air has many technical advantages, especially during assembly; but we are nevertheless reconsidering the use of this power source on some assembly lines, where it is possible to introduce electromechanical tools and devices. Similarly, we are aiming to restrict the use of compressed air in painting processes, by applying modern procedures for direct paint vaporization with high pressure pumps.

In all these cases, the recovery of technical energy losses, the so-called secondary resources, leads to significant savings. We must generalize the use of heat recovery from gases used to heat forges and heat treatment processes, to which end we have designed a standard line of recovery equipment. However, the matter of secondary resource recovery must be considered and examined from an economic standpoint at all installations that consume thermal energy. For instance, a recent project for comprehensive painting installations in the car industry, built on the basis of domestic research, provides a modular recovery system, whose energy efficiency is extremely high and which reintroduces technical heat losses into processes.

But we must not forget that the principal energy consumption of the machine building industry is represented by metal. Each kilogram of metal included in a machine represents a consumption of 2-4 kg of conventional fuel in manufacturing steel semi-finished products. Reducing specific material consumptions, minimizing losses, and minimizing the weight of equipment, are measures that implicitly reduce energy consumption at the level of the national economy. Reducing rejects and losses of any kind through improved technologies and rigorous compliance with increasingly demanding technical specifications, on one hand, and improved computation and design methods for machines, primarily through the use of computers, on the other hand, are major directions of action which offer large possibilities for conservation.

As we have seen, the involvement of the machine building industry in the current energy problem results in a vast program which requires the energy design and technical experience of all enterprises and research units. At the same time, it represents a stimulating factor toward performance and efficiency.

11,023 CSO: 2700/237 PROBLEMS INVOLVED IN SWITCHING TO COAL-BASED ENERGY SOURCE

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[Article by M. Suvelea: "Economic Implications of Utilizing Coal in Power Production"; passages enclosed in slantlines printed in boldface

Text The modification of the energy base, in the sense of reducing the percentage of hydrocarbons and increasing the percentage of coal and then nuclear energy, poses a number of highly complex problems, going from technological ones to problems of environmental protection.

Investments, as a chief factor in supporting such an energy policy, have a special role in solving them. In addition, the impact that the changing of the energy base has on the main branches consuming electric and thermal power poses the problem of their "adaptability" to the new conditions. The switching of the electric and thermal power stations from hydrocarbons to coal, for instance, entails a higher cost per kilowatt produced, so that the branches with a high energy consumption will have to take steps in advance to counteract the negative effects generated by this phenomenon, especially in order to at least maintain efficiency in production.

Of course, the changing of the energy base is much more complicated, it including a whole series of alternatives. On a world level, the forecasts regarding /the modification of the energy base/ can be analyzed on the basis of the information contained in Table 1. It can be judged that the choices regarding the utilization of the alternative sources should involve those for which the reserves are infinite or big and whose contribution to covering the energy consumption is big. As is seen from the table, the time when these sources will go into commercial use lies beyond the year 2000.

In the interval remaining until this time, it is necessary to find prompt solutions for dealing with the energy problem. One of them consists of /obtaining electric and thermal power from low-grade coal and making available on this basis the hydrocarbons currently utilized in the electric power stations/. Such an alternative is also applicable to our country, considering the national reserves of low-grade coal.

The decisions adopted in this direction involve a number of steps that would lead to the attainment of the proposed objective. They are concretized in the following:

- 1) In the 1991-2000 period, the volume of investments for attaining this goal will be 2.1 times higher than in the 1986-1990 period, which means that the part devoted to electric and thermal power will get bigger and bigger, thus providing one of the basic conditions needed for achieving energy independence.
- 2) The switch to coal will provide for availability of a quantity of hydrocarbons estimated at about 8 million tons per year in the 1986-2000 period, thus permitting possibilities of advanced utilization through chemicalization.
- 3) The viability of the program for restructuring the energy base is directly connected with the production and supply of power coal. This problem involves, in particular, the increasing of the efforts to achieve the planned output of coal in the proper assortments and qualities.
- 4) The necessity of taking into consideration the aspects regarding environmental protection in establishing the decisions for switching the power stations from hydrocarbons to coal (especially the power stations in the vicinity of the urban centers and the tourist zones) and in adopting on this basis the corresponding measures.

Table 1. Estimates Regarding the Prospects of Utilizing the Alternative Sources

Source	Reserves	Form in Which It Is Used or Is To Be Used	Time of Going into Indus- trial (Com- mercial) Use	Possible Future Con- tribution to Covering the Energy Consump- tion on a World Level
Thermonuclear	infinite	thermal power	after 2000	big
energy (fu- sion reaction)		electricity	after 2000	big
Solar energy	infinite	thermal power	now	big
		electricity	after 2000	big
Wind energy	limited	electricity	now	limited
wave energy	limited	electricity	1985	limited
Tidal energy	limited	electricity	now	limited
Geothermal	big	thermal power	now	limited
energy		electricity	now	limited
hydrogen	limited	thermal power	after 2000	big
		electricity	after 2000	big

The program for developing the energy system provides that, in the '90's, the percentage of hydrocarbons for producing electric power is to drop considerably, in such a way that these resources are no longer used for power-generation but are devoted to advanced utilization, especially through chemicalization. This choice will entail big investment efforts for promoting coal and nuclear energy on a wide scale. In this regard, the structure of the volume of investments for attaining these objectives will be, according to some estimates, the following (Table 2).

Table 2. The Structure of the Volume of Investments Within the Ministry of Electric Power

Item	1986-1990	1991-2000
Total in the Ministry of Electric Power, including:	100	100
Thermoelectric power stations	31.3	23.8
The switching of the existing power stations to coal	6.1	7.1
Hydroelectric power stations	47.8	59.5
Electrical networks for transmission and distribution	9.6	6.0
Other work	5.2	3.6

As follows from Table 2, the change in the structure of the investments in the 1991-2000 period in relation to the 1986-1990 period involves mainly the reduction of the percentage of the investments for creating new thermoelectric power stations and the corresponding growth of those devoted to hydroelectric power stations. The volume of investments for switching the existing hydrocarbon-based power stations to coal must also be judged similarly. Although the percentage remains relatively constant in the two periods, the absolute volume of the investments devoted to this objective is 2.1 times higher in the 1991-2000 period than in the previous period.

The switching of the existing hydrocarbon-based power stations to coal has three possibilities of achievement, namely:

/The alteration of the existing boilers/. This method, along with the difficulties of a technical nature (the adaptability of the boilers to the new fuel), is unfavorable from an economic viewpoint due to the fact that it necessitates the removal of the existing capacities from the production circuit for a relatively long period. The loss of power for the duration of the tie-ups would have to be counterbalanced by utilizing other variants. Some of them could be: the utilization of the standby capacities (hydroelectric power stations, in particular); making available the capacities undergoing capital repairs by reducing to the possible minimum the time of stoppage for repairs.

The analysis of these variants brings out the following:

- a) The utilization of the standby capacities is restricted by specific conditions (the level of the storage lakes) and, for this reason, is an unrealistic variant:
- b) Under the conditions in which the power deficit could be made up in this way by the capacities made available, the second variant could constitute a realistic choice.

The possibility of simultaneously appealing to the two variants is not excluded, but it is hard to foresee a sure result (at least in the current phase). Besides the above-mentioned aspects, one should note the fact that, under the conditions in which technological research would solve in due time the problem

of adaptability of the boilers and reduction of the time for installing them, significant savings in investments would be achieved by using this method. The necessity of increasing the research efforts in the above-mentioned direction thus follows.

/Gasification of the coal and the use of it in the boilers operating on hydrocarbons/. This method requires a specific investment about 3 times higher than for using a new boiler operating on coal. In addition, the difference in output between the boilers (86 percent for the coal boilers and 65 percent in the case of gasification) necessitates sufficient reserves.

/The replacement of the existing boilers with new ones/. It is estimated that this method is the most efficient one, mainly due to reducing to a minimum the period of immobilization of the production capacities and implementing the elements of technical progress in the new boilers. Although this method, in the current stage, is the most favorable one, the aspect connected with the investment effort should also be noted. Within this method, the investment effort is maximum, although the investment is recovered relatively fast. In addition, it is also necessary to analyze the possibility of the delivery of the boilers in suitable quantities and on schedule by the specialized enterprises.

Since each power station producing electric and thermal power has a certain specific character connected particularly with the location and the installed load, on the basis of the analyses made, it appears that the efficiency indicators oscillate within reasonable limits. At the same time, an appreciable quantity of hydrocarbons is made available under the conditions in which there is an increase in the consumption of conventional fuel per kilowatt produced. However, if the connection between the consumption of conventional fuel and the output achieved is taken into account, the increase in the consumption of conventional fuel is about 16 percent for achieving the same level of production. This influence on the production costs must also be determined in the same way, in the sense that it would be necessary to correlate them with the increase in the consumption of conventional fuel and to determine on this basis the price of the electric and thermal power. In addition, the attainment of the objectives of the energy program by switching to coal leads to the matter of making available 6 million tons of hydrocarbons.

The problems tackled fit within the concerns connected to studying changes of the energy base and establishment of the premises needed for attaining national energy independence. We feel that the stated viewpoints can contribute to the scientific substantiation of decisions to switch power stations producing electrical and thermal power to coal sources, taking into greater consideration aspects of economic efficiency.

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